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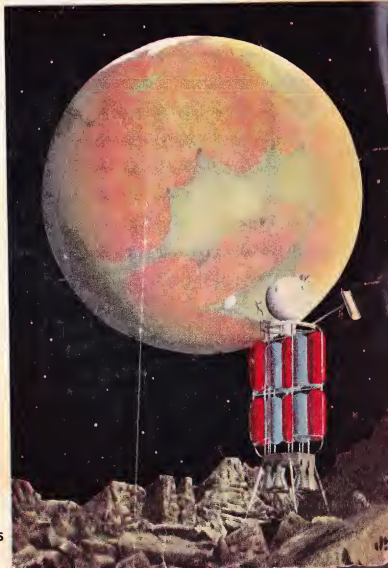
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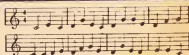




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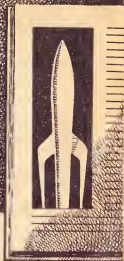
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CONTENTS

NOVELETS

SURVIVAL KIT	by Frederik Pohl	6
A TOUCH OF E FLAT	by Joe Gibson	76
TIME IN THE ROUND	by Fritz Leiber	126

SHORT STORIES

THE LANGUAGE OF LOVE	by Robert Sheckley	39
FOUNDING FATHER	by Clifford D. Simak	63
DOUBLE DOME	by Raymond E. Banks	97
QUOTA FOR CONQUEST	by Richard Wilson	111

SCIENCE DEPARTMENT

FOR YOUR INFORMATION	by Willy Ley	51
Who'll Own the Planets?		

FEATURES

EDITOR'S PAGE	by H. L. Gold	4
FORECAST		121
GALAXY'S FIVE STAR SHELF	by Floyd C. Gale	122

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BEHIND THE COB

IF, LIKE ME, you squirrel away odd facts, you'll remember this item as a sure way to steer dull table talk into a merry chase:

There are *invariably* nine, eleven or thirteen rows of kernels on an ear of corn.

Detective writer and gardener Rex Stout had a fine time with this fact. When a rival gardener got Stout's back up with his horticultural dogmas, the author pounced on the above statement with the information that *his* corn always had even rows of kernels. The argument led to a \$100 bet.

As devious in gardening as he is in plotting, Stout does such things as pinch off all but one bud on branch or vine. The plants then throw all they have into the production of monstrously huge fruit. None is fit to eat, but they cop the prizes at fairs.

To win the \$100, Stout carefully opened several very young ears of corn in his garden and surgically removed a single row of kernels on each ear. Then he closed them and let them grow.

At the end of the summer, he was able to watch his rival's dismayed face while counting all even rows. The man paid up, his

dogmatism badly shaken. Stout let it shake for a while, then confessed the trick and handed back the money.

It's fitting that a detective writer should be involved, for corn is as much of a mystery as bananas, of which I wrote some months ago. (This, incidentally, is a good time to credit Jim Brochart with the formula $BA + 2NA = BaNaNa$. It appeared in *Grue*, an admirable fan magazine, as you can judge by this sample contribution.) I remembered the Stout anecdote when reading "The Mystery of Corn" by Paul C. Mangelsdorf in the *Scientific American Reader*, published by Simon & Schuster.

Not wheat but corn, says the author, is the American staff of life, for corn is the most important and efficient plant we have.

Yet, like the banana, corn "has become so highly domesticated that it is no longer capable of reproducing itself without man's intervention. . . . The ear of corn has no counterpart anywhere else in the plant kingdom, either in nature or among other cultivated plants. It is superbly constructed for producing grain under man's

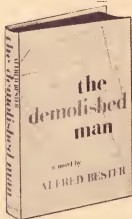
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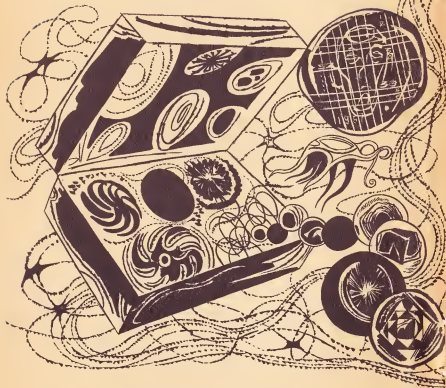
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By FREDERIK POHL

It wasn't fair—a smart but luckless man like Mooney had to scrounge, while Harse always made out just because he had a...

Survival Kit



Illustrated by GAUGHAN

GALAXY SCIENCE FICTION

I

MOONEY looked out of his window, and the sky was white.

It was a sudden, bright, cold flare and it was gone again. It had no more features than a fog, at least not through the window that was showered with snow and patterned with spray from the windy sea.

Mooney blew on his hands and frowned at the window.

"Son of a gun," he said, and thought for a moment about phoning the Coast Guard station. Of course, that meant going a quarter of a mile in the storm to reach the only other house nearby that was occupied; the Hansons had a phone that worked, but a quarter of a mile was a long way in the face of a December gale. And it was all dark out there now. Less than twenty miles across the bay was New York, but this Jersey shore coast was

harsh as the face of the Moon.

Mooney decided it was none of his business.

He shook the kettle, holding it with an old dish towel because it was sizzling hot. It was nearly empty, so he filled it again and put it back on the stove. He had all four top burners and the oven going, which made the kitchen tolerably warm — as long as he wore the scarf and the heavy quilted jacket and kept his hands in his pockets. And there was plenty of tea.

Uncle Lester had left that much behind him — plenty of tea, nearly a dozen boxes of assorted cookies and a few odds and ends of canned goods. And God's own quantity of sugar.

It wasn't exactly a balanced diet, but Mooney had lived on it for three weeks now — smoked turkey sausages for breakfast, and oatmeal cookies for lunch, and canned black olives for dinner. And always plenty of tea.

THE wind screamed at him as he poured the dregs of his last cup of tea into the sink and spooned sugar into the cup for the next one. It was, he calculated, close to midnight. If the damn wind hadn't blown down the TV antenna, he could be watching the late movies now. It helped to pass the time; the last movie was off the air at two or

three o'clock, and then he could go to bed and, with any luck, sleep till past noon.

And Uncle Lester had left a couple of decks of sticky, child-handled cards behind him, too, when the family went back to the city at the end of the summer. So what with four kinds of solitaire, and solo bridge, and television, and a few more naps, Mooney could get through to the next two or three A.M. again. If only the wind hadn't blown down the antenna!

But as it was, all he could get on the cheap little set his uncle had left behind was a faint gray herringbone pattern —

He straightened up with the kettle in his hand, listening.

It was almost as though somebody was knocking at the door.

"That's crazy," Mooney said out loud after a moment. He poured the water over the tea bag, tearing a little corner off the paper tag on the end of the string to mark the fact that this was the second cup he had made with the bag. He had found he could get three cups out of a single bag, but even loaded with sugar, the fourth cup was no longer very good. Still, he had carefully saved all the used, dried-out bags against the difficult future day when even the tea would be gone.

That was going to be one bad

day for Howard Mooney.

Rap, tap. It really was someone at the door! Not knocking, exactly, but either kicking at it or striking it with a stick.

Mooney pulled his jacket tight around him and walked out into the frigid living room, not quite so frigid as his heart.

"Damn!" he said. "Damn, damn!"

What Mooney knew for sure was that nothing good could be coming in that door for him. It might be a policeman from Sea Bright, wondering about the light in the house; it might be a member of his uncle's family. It was even possible that one of the stockholders who had put up the money for that unfortunate venture into frozen-food club management had tracked him down as far as the Jersey shore. It could be almost anything or anybody, but it couldn't be good.

All the same, Mooney hadn't expected it to turn out to be a tall, lean man with angry pale eyes, wearing a silvery sort of leotard.

"I come in," said the angry man, and did.

Mooney slammed the door behind him. Too bad, but he couldn't keep it open, even if it was conceding a sort of moral right to enter to the stranger; he couldn't have all that cold air

coming in to dilute his little bubble of warmth.

"What the devil do you want?" Mooney demanded.

The angry man looked about him with an expression of revulsion. He pointed to the kitchen. "It is warmer. In there?"

"I suppose so. What do —" But the stranger was already walking into the kitchen. Mooney scowled and started to follow, and stopped, and scowled even more. The stranger was leaving footprints behind him, or anyway some kind of marks that showed black on the faded summer rug. True, he was speckled with snow, but — that much snow? The man was drenched. It looked as though he had just come out of the ocean.

The stranger stood by the stove and glanced at Mooney warily. Mooney stood six feet, but this man was bigger. The silvery sort of thing he had on covered his legs as far as the feet, and he wore no shoes. It covered his body and his arms, and he had silvery gloves on his hands. It stopped at the neck, in a collar of what looked like pure silver, but could not have been because it gave with every breath the man took and every tensed muscle or tendon in his neck. His head was bare and his hair was black, cut very short.

He was carrying something flat

and shiny by a molded handle. If it had been made of pigskin, it would have resembled a junior executive's briefcase.

The man said explosively: "You will help me."

Mooney cleared his throat. "Listen, I don't know what you want, but this is my house and—"

"You will help me," the man said positively. "I will pay you. Very well?"

He had a peculiar way of parting his sentences in the middle, but Mooney didn't care about that. He suddenly cared about one thing and that was the word "pay."

"What do you want me to do?"

The angry-eyed man ran his gloved hands across his head and sluiced drops of water onto the scuffed linoleum and the bedding of the cot Mooney had dragged into the kitchen. He said irritably: "I am a wayfarer who needs a Guide? I will pay you for your assistance."

The question that rose to Mooney's lips was "How much?" but he fought it back. Instead, he asked, "Where do you want to go?"

"One moment." The stranger sat damply on the edge of Mooney's cot and, click-snap, the shiny sort of briefcase opened itself in his hands. He took out a flat round thing like a mirror and

looked into it, squeezing it by the edges, and holding it this way and that.

Finally he said: "I must go to Wednesday, the twenty-sixth of December, at—" He tilted the little round thing again. "Brooklyn?" he finished triumphantly.

Mooney said, after a second: "That's a funny way to put it." "Question?"

"I mean," said Mooney, "I know where Brooklyn is and I know when the twenty-sixth of December is — it's next week — but you have to admit that that's an odd way of putting it. I mean you don't go anywhere in time."

The wet man turned his pale eyes on Mooney. "Perhaps you are. Wrong?"

II

MOONEY stared at his napping guest in a mood of wonder and fear and delight.

Time traveler! But it was hard to doubt the pale-eyed man. He had said he was from the future and he mentioned a date that made Mooney gasp. He had said: "When you speak to me, you must know that my Name? Is Harse." And then he had curled up on the floor, surrounding his shiny briefcase like a mother cat around a kitten, and begun dozing alertly.

But not before he showed

Mooney just what it was he proposed to pay him with.

Mooney sipped his cooling tea and forgot to shiver, though the drafts were fiercer and more biting than ever, now just before dawn. He was playing with what had looked at first like a string of steel ball-bearings, a child's necklace, half-inch spheres linked together in a strand a yard long.

Wampum! That was what Harse had called the spheres when he picked the string out of his little kit, and that was what they were.

Each ball-bearing was hollow. Open them up and out come the treasures of the crown. Pop, and one of the spheres splits neatly in half, and out spills a star sapphire, as big as the ball of your finger, glittering like the muted lights of hell. Pop, and another sphere drops a ball of yellow gold into your palm. Pop for a nar-whal's tooth, pop for a cube of sugar; pop, pop, and there on the table before Harse sparkled diamonds and lumps of coal, a packet of heroin, a sphere of silver, pearls, beads of glass, machined pellets of tungsten, lumps of saffron and lumps of salt.

"It is," said Harse, "for your. Pay? No, no!" And he headed off Mooney's greedy fingers.

Click, click, click, and the little pellets of treasure and trash were back in the steel balls.

"No, no!" said Harse again, grinning, snapping the balls together like poppets in a string. "After you have guided me to Brooklyn and the December twenty-sixth. But I must say to you. This? That some of the balls contain plutonium and some radium. And I do not think that you can get them. Open? But if you did, you perhaps would die. Oh. Ho?" And, laughing, he began his taut nap.

MOONEY swallowed the last of his icy tea. It was full daylight outside.

Very well, castaway, he said silently to the dozing pale-eyed man, I will guide you. Oh, there never was a guide like Mooney — not when a guide's fee can run so high. But when you are where you want to go, then we'll discuss the price . . .

A hacksaw, he schemed, and a Geiger counter. He had worn his fingers raw trying to find the little button or knob that Harse had used to open them. All right, he was licked there. But there were more ways than one to open a cat's eye.

A hacksaw. A Geiger counter. And, Mooney speculated drowsily, maybe a gun, if the pale-eyed man got tough.

Mooney fell asleep in joy and anticipation for the first time in more than a dozen years.

IT WAS bright the next morning. Bright and very cold.

"Look alive!" Mooney said to the pale-eyed man, shivering. It had been a long walk from Uncle Lester's house to the bridge, in that ripping, shuddering wind that came in off the Atlantic.

Harse got up off his knees, from where he had been examining the asphalt pavement under the snow. He stood erect beside Mooney, while Mooney put on an egg-sucking smile and aimed his thumb down the road.

The station wagon he had spotted seemed to snarl and pick up speed as it whirled past them onto the bridge.

"I hope you skid into a ditch!" Mooney bawled into the icy air. He was in a fury. There was a bus line that went where they wanted to go. A warm, comfortable bus that would stop for them if they signaled, that would drop them just where they wanted to be, to convert one of Harse's ball-bearings into money. The gold one, Mooney planned. Not the diamond, not the pearl. Just a few dollars was all they wanted, in this Jersey shore area where the towns were small and the gossip big. Just the price of fare into New York, where they could make their way to Tiffany's.

But the bus cost thirty-five cents apiece. Total, seventy cents. Which they didn't have.

"Here comes another. Car?"

Mooney dragged back the corners of his lips into another smile and held out his thumb.

It was a panel truck, light blue, with the sides lettered: *Chris's Delicatessen. Free Deliveries.* The driver slowed up, looked them over and stopped. He leaned toward the right-hand window.

He called: "I can take you far's Red Ba—"

He got a good look at Mooney's companion then and swallowed. Harse had put on an overcoat because Mooney insisted on it and he wore a hat because Mooney had told him flatly there would be trouble and questions if he didn't. But he hadn't taken off his own silvery leotard, which peeped through between neck and hat and where the coat flapped open.

"—ank," finished the driver thoughtfully.

Mooney didn't give him a chance to change his mind. "Red Bank is just where we want to go. Come on!" Already he had his hand on the door. He jumped in, made room for Harse, reached over him and slammed the door.

"Thank you very much," he said chattily to the driver. "Cold morning, isn't it? And that was some storm last night. Say, we really do appreciate this. Anywhere in Red Bank will be all right to drop us, anywhere at all."

He leaned forward slightly, just enough to keep the driver from being able to get a really good look at his other passenger.

It would have gone all right, it really would, except that just past Fair Haven, Harse suddenly announced: "It is the time for me to. Eat?"

HE SNIP-SNAPPED something around the edges of the gleaming sort of dispatch case, which opened. Mooney, peering over his shoulder, caught glimpses of shiny things and spinning things and things that seemed to glow. So did the driver.

"Hey," he said, interested, "what've you got there?"

"My business," said Harse, calmly and crushingly.

The driver blinked. He opened his mouth, and then he shut it again, and his neck became rather red.

Mooney said rapidly: "Say, isn't there — uh — isn't there a lot of snow?" He feigned fascination with the snow on the road, leaning forward until his face was nearly at the frosty windshield. "My gosh, I've never seen the road so snowy!"

Beside him, Harse was methodically taking things out of other things. A little cylinder popped open and began to steam; he put it to his lips and drank. A cube the size of a fist opened up at

one end and little pellets dropped out into a cup. Harse picked a couple up and began to chew them. A flat, round object the shape of a cafeteria pie flipped open and something gray and doughy appeared —

"Holy heaven!"

Mooney's face slammed into the windshield as the driver tramped on his brakes. Not that Mooney could really blame him. The smell from that doughy mass could hardly be believed; and what made it retchingly worse was that Harse was eating it with a pearly small spoon.

The driver said complainingly: "Out! Out, you guys! I don't mind giving you a lift, but I've got hard rolls in the back of the truck and that smell's going to — Out! You heard me!"

"Oh," said Harse, tasting happily. "No."

"No?" roared the driver. "Now listen! I don't have to take any lip from hitchhikers! I don't have to —"

"One moment," said Harse. "Please." Without hurry and without delay, beaming absently at the driver, he reached into the silvery case again. Snip, snippety-snap; a jointed metal thing wriggled and snicked into place. And Harse, still beaming, pointed it at the driver.

Pale blue light and a faint whine.

It was a good thing the truck was halted, because the whining blue light reached diffidently out and embraced the driver; and then there was no driver. There was nothing. He was gone, beyond the reach of any further lip from hitchhikers.

III

SO THERE was Mooney, driving a stolen panel truck, Mooney the bankrupt, Mooney the ne'er-do-well, and now Mooney the accomplice murderer. Or so he thought, though the pale-eyed man had laughed like a panther when he'd asked.

He rehearsed little speeches all the day down U.S. One, Mooney did, and they all began: "Your Honor, I didn't know —"

Well, he hadn't. How could a man like Mooney know that Harse was so bereft of human compassion as to snuff out a life for the sake of finishing his lunch in peace? And what could Mooney have done about it, without drawing the diffident blue glow to himself? No, Your Honor, really, Your Honor, he took me by surprise . . .

But by the time they ditched the stolen car, nearly dry of gas, at the Hoboken ferry, Mooney had begun to get his nerve back. In fact, he was beginning to perceive that in that glittering sil-

very dispatch case that Harse hugged to him were treasures that might do wonders for a smart man unjustly dogged by hard times. The wampum alone! But beyond the wampum, the other good things that might in time be worth more than any amount of mere money.

There was that weapon. Mooney cast a glance at Harse, blank-eyed and relaxed, very much disinterested in the crowds of commuters on the ferry.

Nobody in all that crowd would believe that Harse could pull out a little jointed metal thing and push a button and make any one of them cease to exist. Nobody would believe it — not even a jury. *Corpus delicti*, body of evidence — why, there would be no evidence! It was a simple, workable, foolproof way of getting any desired number of people out of the way without fuss, muss or bother — and couldn't a smart but misfortunate man like Mooney do wonders by selectively removing those persons who stood as obstacles in his path?

And there would be more, much, much more. The thing to do, Mooney schemed, was to find out just what Harse had in that kit and how to work it; and then — who could know, perhaps Harse would himself find the diffident blue light reaching out for him before the intersection of Brook-

lyn and December twenty-sixth? Mooney probed.

"Ah," laughed Harse. "Ho! I perceive what you want. You think perhaps there is something you can use in my survival kit."

"All right, Harse," Mooney said submissively, but he did have reservations.

First, it was important to find out just what was in the kit. After that —

Well, even a man from the future had to sleep.

MOONEY was in a roaring rage. How dared the Government stick its bureaucratic nose into a simple transaction of citizens! But it turned out to be astonishingly hard to turn Harse's wampum into money. The first jeweler asked crudely threatening questions about an emerald the size of the ball of his thumb; the second quoted chapter and verse on the laws governing possession of gold. Finally they found a pawnbroker, who knowingly accepted a diamond that might have been worth a fortune; and when they took his first offer of a thousand dollars, the pawnbroker's suspicions were confirmed. Mooney dragged Harse away from there fast.

But they did have a thousand dollars.

As the cab took them across town, Mooney simmered down;

and by the time they reached the other side, he was entirely content. What was a fortune more or less to a man who very nearly owned some of the secrets of the future?

He sat up, lit a cigarette, waved an arm and said expansively to Harse: "Our new home."

The pale-eyed man took a glowing little affair with eyepieces away from in front of his eyes.

"Ah," he said. "So."

It was quite an attractive hotel, Mooney thought judiciously. It did a lot to take away the sting of those sordidly avaricious jewelers. The lobby was an impressively close approximation of a cathedral and the bellboys looked smart and able.

Harse made an asthmatic sound. "What is. That?" He was pointing at a group of men standing in jovial amusement around the entrance to the hotel's grand ballroom, just off the lobby. They were purple harem pants and floppy green hats, and every one of them carried a silver-paper imitation of a scimitar.

Mooney chuckled in a superior way. "You aren't up on our local customs, are you? That's a convention, Harse. They dress up that way because they belong to a lodge. A lodge is a kind of fraternal organization. A fraternal organization is —"

Harse said abruptly: "I want."

Mooney began to feel alarm. "What?"

"I want one for a. Specimen? Wait, I think I take the big one there."

"Harse! Wait a minute!" Mooney clutched at him. "Hold everything, man! You can't do that."

Harse stared at him. "Why?"

"Because it would upset everything, that's why! You want to get to your rendezvous, don't you? Well, if you do anything like that, we'll never get there!"

"Why not?"

"Please," Mooney said, "please take my word for it. You hear me? I'll explain later!"

Harse looked by no means convinced, but he stopped opening the silvery metal case. Mooney kept an eye on him while registering. Harse continued to watch the conventioners, but he went no further. Mooney began to breathe again.

"Thank you, sir," said the desk clerk — not every guest, even in this hotel, went for a corner suite with two baths. "Front!"

A SMART-LOOKING bellboy stepped forward, briskly took the key from the clerk, briskly nodded at Mooney and Harse. With the automatic reflex of any hotel bellhop, he reached for Harse's silvery case. Baggage was baggage, however funny it looked.

But Harse was not just any old guest. The bellboy got the bag away from him, all right, but his victory was purely transitory. He yelled, dropped the bag, grabbed his fist with the other hand.

"Hey! It shocked me! What kind of tricks are you trying to do with electric suitcases?"

Mooney moaned softly. The whole lobby was looking at them — even the conventioners at the entrance to the ballroom; even the men in mufti mingling with the conventioners, carrying cameras and flash guns; even the very doorman, the whole lobby away. That was bad. What was worse was that Harse was obviously getting angry.

"Wait, wait!" Mooney stepped between them in a hurry. "I can explain everything. My friend is, uh, an inventor. There's some very important material in that briefcase, believe me!"

He winked, patted the bellhop on the shoulder, took his hand with friendly concern and left in it a folded bill.

"Now," he said confidentially, "we don't want any disturbance. I'm sure you understand how it is, son. Don't you? My friend can't take any chances with his, uh, confidential material, you see? Right. Well, let's say no more about it. Now if you'll show us to our room —"

The bellhop, still stiff-backed,

glanced down at the bill and the stiffness disappeared as fast as any truckdriver bathed in Harse's pale blue haze. He looked up again and grinned.

"Sorry, sir —" he began.

But he didn't finish. Mooney had let Harse get out of his sight a moment too long.

The first warning he had was when there was a sudden commotion among the lodge brothers. Mooney turned, much too late. There was Harse; he had wandered over there, curious and interested and — Harse. He had stared them up and down, but he hadn't been content to stare. He had opened the little silvery dispatch-case and taken out of it the thing that looked like a film viewer; and maybe it was a camera, too, because he was looking through it at the conventioners. He was covering them as Dixie is covered by the dew, up and down, back and forth, heels to head.

And it was causing a certain amount of attention. Even one of the photographers thought maybe this funny-looking guy with the funny-looking opera glasses was curious enough to be worth a shot. After all, that was what the photographer was there for. He aimed and popped a flash gun.

There was an abrupt thin squeal from the box. Black fog

sprayed out of it in a greasy jet. It billowed toward Harse. It collected around him, swirled high. Now all the flashguns were popping . . .

It was a clear waste of a twenty-dollar bill, Mooney told himself aggrievedly out on the sidewalk. There had been no point in buttering up the bellhop as long as Harse was going to get them thrown out anyway.

ON the other side of the East River, in a hotel that fell considerably below Mooney's recent, brief standards of excellence, Mooney cautiously tipped a bell-boy, ushered him out, locked the door behind him and, utterly exhausted, flopped on one of the twin beds.

Harse glanced at him briefly, then wandered over to the window and stared incuriously at the soiled snow outside.

"You were fine, Harse," said Mooney without spirit. "You didn't do anything wrong at all."

"Ah," said Harse without turning. "So?"

Mooney sat up, reached for the phone, demanded setups and a bottle from room service and hung up.

"Oh, well," he said, beginning to revive, "at least we're in Brooklyn now. Maybe it's just as well."

"As well. What?"

"I mean this is where you

wanted to be. Now we just have to wait four days, until the twenty-sixth. We'll have to raise some more money, of course," he added experimentally.

Harse turned and looked at him with the pale eyes. "One thousand dollars you have. Is not enough?"

"Oh, no, Harse," Mooney assured him. "Why, that won't be nearly enough. The room rent in this hotel alone is likely to use that up. Besides all the extras, of course."

"Ah." Harse, looking bored, sat down in the chair near Mooney, opened his kit, took out the thing that looked like a film viewer and put it to his eyes.

"We'll have to sell some more of those things. After all—" Mooney winked and dug at the pale-eyed man's ribs with his elbow—"we'll be needing some, well, entertainment."

Harse took the viewer away from his eyes. He glanced thoughtfully at the elbow and then at Mooney. "So," he said.

Mooney coughed and changed the subject. "One thing, though," he begged. "Don't get me in any more trouble like you did in that hotel lobby—or with that guy in the truck. Please? I mean, after all, you're making it hard for me to carry out my job."

Harse was thoughtfully silent. "Promise?" Mooney urged.

Harse said, after some more

consideration: "It is not altogether me. That is to say, it is a matter of defense. My picture should not be. Photographed? So the survival kit insures that it is not. You understand?"

Mooney leaned back. "You mean—" The bellboy with the drinks interrupted him; he took the bottle, signed the chit, tipped the boy and mixed himself a reasonably stiff but not quite stupefying highball, thinking hard.

"Did you say 'survival kit'?" he asked at last.

Harse was deep in the viewer again, but he looked away from it irritably. "Naturally, survival kit. So that I can. Survive?" He went back to the viewer.

Mooney took a long, thoughtful slug of the drink.

SURVIVAL kit. Why, that made sense. When the Air Force boys went out and raided the islands in the Pacific during the war, sometimes they got shot down—and it was enemy territory, or what passed for it. Those islands were mostly held by Japanese, though their populations hardly knew it. All the aborigines knew was that strange birds crossed the sky and sometimes men came from them. The politics of the situation didn't interest the headhunters. What really interested them was heads.

But for a palatable second

choice, they would settle for trade goods — cloth, mirrors, beads. And so the bomber pilots were equipped with survival kits — maps, trade goods, rations, weapons, instructions for proceeding to a point where, God willing, a friendly submarine might put ashore a rubber dinghy to take them off.

Mooney said persuasively: "Harse, I'm sorry to bother you, but we have to talk." The man with the pale eyes took them away from the viewer again and stared at Mooney. "Harse, were you shot down like an airplane pilot?"

HARSE frowned—not in anger, or at least not at Mooney. It was the effort to make himself understood. He said at last: "Yes. Call it that."

"And — and this place you want to go to — is that where you will be rescued?"

"Yes."

Aha, thought Mooney, and the glimmerings of a new idea began to kick and stretch its fetal limbs inside him. He put it aside, to bear and coddle in private. He said: "Tell me more. Is there any particular part of Brooklyn you have to go to?"

"Ah. The Nexus Point?" Harse put down the viewer and, snap-snap, opened the gleaming kit. He took out the little round thing

he had consulted in the house by the cold Jersey sea. He tilted it this way and that, frowned, consulted a small square sparkly thing that came from another part of the case, tilted the round gadget again.

"Correcting for local time," he said, "the Nexus Point is one hour and one minute after midnight at what is called. The Vale of Cashmere?"

Mooney scratched his ear. "The Vale of Cashmere? Where the devil is that — somewhere in Pakistan?"

"Brooklyn," said Harse with an imp's grimace. "You are the guide and you do not know where you are guiding me to?"

Mooney said hastily: "All right, Harse, all right. I'll find it. But tell me one thing, will you? Just suppose — suppose, I said — that for some reason or other, we don't make it to the what-you-call, Nexus Point. Then what happens?"

Harse for once neither laughed nor scowled. The pale eyes opened wide and glanced around the room, at the machine-made candlewick spreads on the beds, at the dusty red curtains that made a "suite" out of a long room, at the dog-eared Bible that lay on the night table.

"Suh," he stammered, "suh — suh — seventeen years until there is another Nexus Point!"

MOONEY dreamed miraculous dreams and not entirely because of the empty bottle that had been full that afternoon. There never was a time, never will be a time, like the future Mooney dreamed of — Mooney-owned, houri-inhabited, a fair domain for a live-wire Emperor of the Eons . . .

He woke up with a splitting head.

Even a man from the future had to sleep, so Mooney had thought, and it had been in his mind that, even this first night, it might pay to stay awake a little longer than Harse, just in case it might then seem like a good idea to — well, to bash him over the head and grab the bag. But the whiskey had played him dirty and he had passed out — drunk, blind drunk, or at least he hoped so. He hoped that he hadn't seen what he thought he had seen sober.

He woke up and wondered what was wrong. Little tinkling ice spiders were moving around him. He could hear their tiny crystal sounds and feel their chill legs, so lightly, on him. It was still a dream — wasn't it?

Or was he awake? The thing was, he couldn't tell. If he was awake, it was the middle of the night, because there was no light

whatever; and besides, he didn't seem to be able to move.

Thought Mooney with anger and desperation: I'm dead. And: What a time to die!

But second thoughts changed his mind; there was no heaven and no hell, in all the theologies he had investigated, that included being walked over by tiny spiders of ice. He *felt* them. There was no doubt about it.

It was Harse, of course — had to be. Whatever he was up to, Mooney couldn't say, but as he lay there sweating cold sweat and feeling the crawling little feet, he knew that it was something Harse had made happen.

Little by little, he began to be able to see — not much, but enough to see that there really was something crawling. Whatever the things were, they had a faint, tenuous glow, like the face of a watch just before dawn. He couldn't make out shapes, but he could tell the size — not much bigger than a man's hand — and he could tell the number, and there were dozens of them.

He couldn't turn his head, but on the walls, on his chest, on his face, even on the ceiling, he could see faint moving patches of fox-fire light.

HE TOOK a deep breath. "Harse!" he started to call; wake him up, make him stop this!

But he couldn't. He got no further than the first huff of the aspirate when the scurrying cold feet were on his lips. Something cold and damp lay across them and it stuck. Like spider silk, but stronger — he couldn't speak, couldn't move his lips, though he almost tore the flesh.

Oh, he could make a noise, all right. He started to do so, to snort and hum through his nose. But Mooney was not slow of thought and he had a sudden clear picture of that same cold ribbon crossing his nostrils, and what would be the use of all of time's treasures then, when it was no longer possible to breathe at all?

It was quite apparent that he was not to make a noise.

He had patience — the kind of patience that grows with a diet of thrice-used tea bags and soggy crackers. He waited.

It wasn't the middle of the night after all, he perceived, though it was still utterly dark except for the moving blobs. He could hear sounds in the hotel corridor outside—faintly, though: the sound of a vacuum cleaner, and it might have been a city block away; the tiniest whisper of someone laughing.

He remembered one of his drunken fantasies of the night before — little robot mice, or so they seemed, spinning a curtain

across the window; and he shuddered, because that had been no fantasy. The window was curtained. And it was mid-morning, at the earliest, because the chambermaids were cleaning the halls.

Why couldn't he move? He flexed the muscles of his arms and legs, but nothing happened. He could feel the muscles straining, he could feel his toes and fingers twitch, but he was restrained by what seemed a web of Gulliver's cords . . .

There was a tap at the door. A pause, the scratching of a key, and the room was flooded with light from the hall.

Out of the straining corner of his eye, Mooney saw a woman in a gray cotton uniform, carrying fresh sheets, standing in the doorway, and her mouth was hanging slack. No wonder, for in the light from the hall, Mooney could see the room festooned with silver, with darting silvery shapes moving about. Mooney himself wore a cocoon of silver, and on the bed next to him, where Harse slept, there was a fantastic silver hood, like the basketwork of a baby's bassinet, surrounding his head.

It was a fairyland scene and it lasted only a second. For Harse cried out and leaped to his feet. Quick as an adder, he scooped up something from the table beside his bed and gestured with it at

the door. It was, Mooney half perceived, the silvery, jointed thing he had used in the truck; and he used it again.

Pale blue light streamed out.

It faded and the chambermaid, popping eyes and all, was gone.

IT DIDN'T hurt as much the second time.

Mooney finally attracted Harse's attention, and Harse, with a Masonic pass over one of the little silvery things, set it to loosening and removing the silver bonds. The things were like toy tanks with jointed legs; as they spun the silver webs, they could also suck them in. In moments, the webs that held Mooney down were gone.

He got up, aching in his tired muscles and his head, but this time the panic that had filled him in the truck was gone. Well, one victim more or less — what did it matter? And besides, he clung to the fact that Harse had not exactly said the victims were dead.

So it didn't hurt as much the second time.

Mooney planned. He shut the door and sat on the edge of the bed. "Shut up — you put us in a lousy fix and I have to think a way out of it," he rasped at Harse when Harse started to speak; and the man from the future looked at him with opaque pale eyes,



and silently opened one of the flat canisters and began to eat.

"All right," said Mooney at last. "Harse, get rid of all this stuff."

"This. Stuff?"

"The stuff on the walls. What your little spiders have been spinning, understand? Can't you get it off the walls?"



Harse leaned forward and touched the kit. The little spider-things that had been aimlessly roving now began to digest what they had created, as the ones that had held Mooney had already done. It was quick — Mooney hoped it would be quick enough. There were over a dozen of the

things, more than Mooney would have believed the little kit could hold; and he had seen no sign of them before.

The silvery silk on the walls, in aimless tracing, disappeared. The thick silvery coat over the window disappeared. Harse's bassinet-hood disappeared. A construc-

tion that haloed the door disappeared—and as it dwindled, the noises from the corridor grew louder; some sort of sound-absorbing contrivance, Mooney thought, wondering.

There was an elaborate silvery erector-set affair on the floor between the beds; it whirled and spun silently and the little machines took it apart again and swallowed it. Mooney had no notion of its purpose. When it was gone, he could see no change, but Harse shuddered and shifted his position uncomfortably.

"All right," said Mooney when everything was back in the kit. "Now you just keep your mouth shut. I won't ask you to lie—they'll have enough trouble understanding you if you tell the truth. Hear me?"

Harse merely stared, but that was good enough. Mooney put his hand on the phone. He took a deep breath and held it until his head began to tingle and his face turned red. Then he picked up the phone and, when he spoke, there was authentic rage and distress in his voice.

"Operator," he snarled, "give me the manager. And hurry up—I want to report a thief!"

WHEN the manager had gone—along with the assistant manager, the house detective and the ancient shrew-faced head

housekeeper—Mooney extracted a promise from Harse and left him. He carefully hung a "Do Not Disturb" card from the doorknob, crossed his fingers and took the elevator downstairs.

The fact seemed to be that Harse didn't care about *aboriginals*. Mooney had arranged a system of taps on the door which, he thought, Harse would abide by, so that Mooney could get back in. Just the same, Mooney vowed to be extremely careful about how he opened that door. Whatever the pale blue light was, Mooney wanted no part of it directed at him.

The elevator operator greeted him respectfully—a part of the management's policy of making amends, no doubt. Mooney returned the greeting with a barely civil nod. Sure, it had worked; he'd told the manager that he'd caught the chambermaid trying to steal something valuable that belonged to that celebrated proprietor of valuable secrets, Mr. Harse; the chambermaid had fled; how dared they employ a person like that?

And he had made very sure that the manager and the house dick and all the rest had plenty of opportunity to snoop apologetically in every closet and under the beds, just so there would be no suspicion in their minds that a dismembered chamber-

maid-torso was littering some dark corner of the room. What could they do but accept the story? The chambermaid wasn't there to defend herself, and though they might wonder how she had got out of the hotel without being noticed, it was their problem to figure it out, not Mooney's to explain it.

They had even been grateful when Mooney offered handsomely to refrain from notifying the police.

"Lobby, sir," sang out the elevator operator, and Mooney stepped out, nodded to the manager, stared down the house detective and walked out into the street.

So far, so good.

Now that the animal necessities of clothes and food and a place to live were taken care of, Mooney had a chance to operate. It was a field in which he had always had a good deal of talent—the making of deals, the locating of contacts, the arranging of transactions that were better conducted in private.

And he had a good deal of business to transact. Harse had accepted without question his statement that they would have to raise more money.

"Try heroin or. Platinum?" he had suggested, and gone back to his viewer.

"I will," Mooney assured him,

and he did; he tried them both, and more besides.

NOT only was it good that he had such valuable commodities to vend, but it was a useful item in his total of knowledge concerning Harse that the man from the future seemed to have no idea of the value of money in the 20th Century, *chez U.S.A.*

Mooney found a buyer for the drugs; and there was a few thousand dollars there, which helped, for although the quantity was not large, the drugs were chemically pure. He found a fence to handle the jewels and precious metals; and he unloaded all the ones of moderate value—not the other diamond, not the rubies, not the star sapphire.

He arranged to keep those without mentioning it to Harse. No point in selling them now, not when they had several thousand dollars above any conceivable expenses, not when some future date would do as well, just in case Harse should get away with the balance of the kit.

Having concluded his business, Mooney undertook a brief but expensive shopping tour of his own and found a reasonably satisfactory place to eat. After a pleasantly stimulating cocktail and the best meal he had had in some years—doubly good, for there was no reek from Harse's nause-

ating concoctions to spoil it — he called for coffee, for brandy, for the day's papers.

The disappearance of the truck driver made hardly a ripple. There were a couple of stories, but small and far in the back — amnesia, said one; an underworld kidnaping, suggested another; but the story had nothing to feed on and it would die.

Good enough, thought Mooney, waving for another glass of that enjoyable brandy; and then he turned back to the front page and saw his own face.

There was the hotel lobby of the previous day, and a pillar of churning black smoke that Mooney knew was Harse, and there in the background, mouth agape, expression worried, was Howard Mooney himself.

He read it all very, very carefully.

Well, he thought, at least they didn't get our names. The story was all about the Loyal and Beneficent Order of Exalted Eagles, and the only reference to the picture was a brief line about a disturbance outside the meeting hall. Nonetheless, the second glass of brandy tasted nowhere near as good as the first.

TIME passed. Mooney found a man who explained what was meant by the Vale of Cashmere. In Brooklyn, there is a very large

park — the name is Prospect Park — and in it is a little planted valley, with a brook and a pool; and the name of it on the maps of Prospect Park is the Vale of Cashmere. Mooney sent out for a map, memorized it; and that was that.

However, Mooney didn't really want to go to the Vale of Cashmere with Harse. What he wanted was that survival kit. Wonders kept popping out of it, and each day's supply made Mooney covet the huger store that was still inside. There had been, he guessed, something like a hundred separate items that had somehow come out of that tiny box. There simply was no room for them all; but that was not a matter that Mooney concerned himself with. They were there, possible or not, because he had seen them.

Mooney laid traps.

The trouble was that Harse did not care for conversation. He spent endless hours with his film viewer, and when he said anything at all to Mooney, it was to complain. All he wanted was to exist for four days — nothing else.

Mooney laid conversational traps, tried to draw him out, and there was no luck. Harse would turn his blank, pale stare on him, and refuse to be drawn.

At night, however hard Mooney tried, Harse was always awake past him; and in his sleep, always

and always, the little metal guardians strapped Mooney tight. Survival kit? But how did the little metal things know that Mooney was a threat?

It was maddening and time was passing. There were four days, then only three, then only two. Mooney made arrangements of his own.

He found two girls—lovely girls, the best that money could buy, and he brought them to the suite with a wink and a snigger. “A little relaxation, eh, Harse? The red-haired one is named Ginger and she’s partial to men with light-colored eyes.”

Ginger smiled a rehearsed and lovely smile. “I certainly *am*, Mr. Harse. Say, want to dance?”

But it came to nothing, though the house detective knocked deferentially on the door to ask if they could be a little more quiet, please. It wasn’t the sound of celebration that the neighbors were objecting to. It was the shrill, violent noise of Harse’s laughter. First he had seemed not to understand, and then he looked as astonished as Mooney had ever seen him. And then the laughter.

Girls didn’t work. Mooney got rid of the girls.

All right, Mooney was a man of infinite resource and sagacity—hadn’t he proved that many a time? He excused himself to

Harse, made sure his fat new pigskin wallet was in his pocket, and took a cab to a place on Brooklyn’s waterfront where cabs seldom go. The bartender had arms like beer kegs and a blue chin.

“Beer,” said Mooney, and made sure he paid for it with a twenty-dollar bill—thumbing through a thick wad of fifties and hundreds to find the smallest. He retired to a booth and nursed his beer.

After about ten minutes, a man stood beside him, blue-chinned and muscular enough to be the bartender’s brother—which, Mooney found, he was.

“Well,” said Mooney, “it took you long enough. Sit down. You don’t have to roll me; you can earn this.”

Girls didn’t work? Okay, if not girls, then try boys . . . well, not boys exactly. Hoodlums. Try hoodlums and see what Harse might do against the toughest inhabitants of the area around the Gowanus Canal.

HARSE, sloshing heedlessly through melted snow, spattering Mooney, grumbled: “I do not see why we. Must? Wander endlessly across the face of this wretched slum.”

Mooney said soothingly: “We have to make *sure*, Harse. We have to be sure it’s the right place.”

"Huff," said Harse, but he went along. They were in Prospect Park and it was nearly dark.

"Hey, look," said Mooney desperately, "look at those kids on sleds!"

Harse glanced angrily at the kids on sleds and even more angrily at Mooney. Still, he wasn't refusing to come and that was something. It had been possible that Harse would sit tight in the hotel room and it had taken all of the persuasive powers Mooney prided himself on to get him out. But Mooney was able to paint a horrible picture of getting to the wrong place, missing the Nexus Point, seventeen long years of waiting for the next one.

They crossed the Sheep Meadow, crossed the walk, crossed an old covered bridge; and they were at the head of a flight of shallow steps.

"The Vale of Cashmere!" cried Mooney, as though he were announcing a miracle.

Harse said nothing.

Mooney licked his lips, glancing at the kit Harse carried under an arm, glancing around. No one was in sight.

Mooney coughed. "Uh. You're sure this is the place you mean?"

"If it is the Vale of Cashmere." Harse looked once more down the steps, then turned.

"No, wait!" said Mooney frantically. "I mean — well, *where* in

the Vale of Cashmere is the Nexus Point? This is a big place!"

Harse's pale eyes stared at him for a moment. "No. Not big."

"Oh, *fairly* big. After all —"

Harse said positively: "Come."

Mooney swore under his breath and vowed never to trust anyone again, especially a bartender's brother; but just then it happened. Out of the snowy bushes stepped a man in a red bandanna, holding a gun. "This is a stickup! Gimme that bag!"

Mooney exulted.

There was no chance for Harse now. The man was leaping toward him; there would be no time for him to open the bag, take out the weapon . . .

But he didn't have to. There was a thin, singing, whining sound from the bag. It leaped out of Harse's hand, leaped free as though it had invisible wings, and flew at the man in the red bandanna. The man stumbled and jumped aside, the eyes incredulous over the mask. The silvery flat metal kit spun round him, whining. It circled him once, spiraled up. Behind it, like a smoke trail from a destroyer, a pale blue mist streamed backward. It surrounded the man and hid him.

The bag flew back into Harse's hand.

The violet mist thinned and disappeared.

And the man was gone, as ut-

terly and as finally as any chambermaid or driver of a truck.

There was a moment of silence. Mooney stared without belief at the snow sifting down from the bushes that the man had hid in.

Harse looked opaquely at Mooney. "It seems," he said, "that in these slums are many. Dangers?"

MOOONEY was very quiet on the way back to the hotel. Harse, for once, was not gazing into his viewer. He sat erect and silent beside Mooney, glancing at him from time to time. Mooney did not relish the attention.

The situation had deteriorated.

It deteriorated even more when they entered the lobby of the hotel. The desk clerk called to Mooney.

Mooney hesitated, then said to Harse: "You go ahead. I'll be up in a minute. And listen—don't forget about my knock."

Harse inclined his head and strode into the elevator. Mooney sighed.

"There's a gentleman to see you, Mr. Mooney," the desk clerk said civilly.

Mooney swallowed. "A—a gentleman? To see me?"

The clerk nodded toward the writing room. "In there, sir. A gentleman who says he knows you."

Mooney pursed his lips.

In the writing room? Well, that was an advantage. The writing room was off the main lobby; it would give Mooney a chance to peek in before whoever it was could see him. He approached the entrance cautiously...

"Howard!" cried an accusing familiar voice behind him.

Mooney turned. A small man with curly red hair was coming out of a door marked "Men."

"Why—why, Uncle Lester!" said Mooney. "What a p-pleasant surprise!"

Lester, all of five feet tall, wispy red hair surrounding his red plump face, looked up at him belligerently.

"No doubt!" he snapped. "I've been waiting all day, Howard. Took the afternoon off from work to come here. And I wouldn't have been here at all if I hadn't seen *this*."

He was holding a copy of the paper with Mooney's picture, behind the pillar of black fog. "Your aunt wrapped my lunch in it, Howard. Otherwise I might have missed it. Went right to the hotel. You weren't there. The doorman helped, though. Found a cab driver. Told me where he'd taken you. Here I am."

"That's nice," lied Mooney.

"No, it isn't. Howard, what in the world are you up to? Do you know the Monmouth County police are looking for you? Said

there was somebody missing. Want to talk to you." The little man shook his head angrily. "Knew I shouldn't let you stay at my place. Your aunt warned me, too. Why do you make trouble for me?"

"Police?" Mooney asked faintly.

"At my age! Police coming to the house. Who was that fella who's missing, Howard? Where did he go? Why doesn't he go home? His wife's half crazy. He shouldn't worry her like that."

MOONEY clutched his uncle's shoulder. "Do the police know where I am? You didn't tell them?"

"Tell them? How could I tell them? Only I saw your picture while I was eating my sandwich, so I went to the hotel and —"

"Uncle Lester, listen. What did they come to see you for?"

"Because I was stupid enough to let you stay in my house, that's what for," Lester said bitterly. "Two days ago. Knocking on my door, hardly eight o'clock in the morning. They said there's a man missing, driving a truck, found the truck empty. Man from the Coast Guard station knows him, saw him picking up a couple of hitchhikers at a bridge someplace, recognized one of the hitchhikers. Said the hitchhiker'd been staying at my house. That's you, Howard. Don't lie; he described you.

Pudgy, kind of a squinty look in the eyes, dressed like a bum — oh, it was you, all right."

"Wait a minute. Nobody knows you've come here, right? Not even Auntie?"

"No, course not. She didn't see the picture, so how would she know? Would've said something if she had. Now come on, Howard, we've got to go to the police and —"

"Uncle Lester!"

The little man paused and looked at him suspiciously. But that was all right; Mooney began to feel confidence flow back into him. It wasn't all over yet, not by a long shot.

"Uncle Lester," he said, his voice low-pitched and persuasive, "I have to ask you a very important question. Think before you answer, please. This is the question: Have you ever belonged to any Communist organization?"

The old man blinked. After a moment, he exploded. "Now what are you up to, Howard? You know I never —"

"Think, Uncle Lester! Please. Way back when you were a boy — anything like that?"

"Of course not!"

"You're sure? Because I'm warning you, Uncle Lester, you're going to have to take the strictest security check anybody ever took. You've stumbled onto something important. You'll have to

prove you can be trusted or — well, I can't answer for the consequences. You see, this involves —" he looked around him furtively — "Schenectady Project."

"Schenec —"

"Schenectady Project." Mooney nodded. "You've heard of the atom bomb? Uncle Lester, this is bigger!"

"Bigger than the at —"

"Bigger. It's the *molecule* bomb. There aren't seventy-five men in the country that know what that so-called driver in the truck was up to, and now you're one of them."

Mooney nodded soberly, feeling his power. The old man was hooked, tied and delivered. He could tell by the look in the eyes, by the quivering of the lips. Now was the time to slip the contract in his hand; or, in the present instance, to —

"I'll tell you what to do," whispered Mooney. "Here's my key. You go up to my room. Don't knock — we don't want to attract attention. Walk right in. You'll see a man there and he'll explain everything. Understand?"

"Why — why, sure, Howard. But why don't you come with me?"

Mooney raised a hand warningly. "You might be followed. I'll have to keep a lookout."

Five minutes later, when Mooney tapped on the door of

the room — three taps, pause, three taps — and cautiously pushed it open, the pale blue mist was just disappearing. Harse was standing angrily in the center of the room with the jointed metal thing thrust out ominously before him.

And of Uncle Lester, there was no trace at all.

V

TIME passed; and then time was all gone, and it was midnight, nearly the Nexus Point.

In front of the hotel, a drowsy cab-driver gave them an argument. "The Public Liberry? Listen, the Liberry ain't open this time of night. I ought to — Oh, thanks. Hop in." He folded the five-dollar bill and put the cab in gear.

Harse said ominously: "Liberry, Mooney? Why do you instruct him to take us to the Liberry?"

Mooney whispered: "There's a law against being in the Park at night. We'll have to sneak in. The Library's right across the street."

Harse stared, with his luminous pale eyes. But it was true; there was such a law, for the parks of the city lately had become fields of honor where rival gangs contended with bottle shards and zip guns, where a passerby was odds-on to be mugged.

"High Command must know

this," Harse grumbled. "Must proceed, they say, to Nexus Point. But then one finds the aborigines have made laws! Oh, I shall make a report!"

"Sure you will," Mooney soothed; but in his heart, he was prepared to bet heavily against it.

Because he had a new strategy. Clearly he couldn't get the survival kit from Harse. He had tried that and there was no luck; his arm still tingled as the bell-boy's had, from having seemingly absent-mindedly taken the handle to help Harse. But there was a way.

Get rid of this clown from the future, he thought contentedly; meet the Nexus Point instead of Harse and there was the future, ripe for the taking! He knew where the rescuers would be — and, above all, he knew how to talk. Every man has one talent and Mooney's was salesmanship.

All the years wasted on peddling dime-store schemes like frozen-food plans! But this was the big time at last, so maybe the years of seasoning were not wasted, after all.

"That for you, Uncle Lester," he muttered. Harse looked up from his viewer angrily and Mooney cleared his throat. "I said," he explained hastily, "we're almost at the — the Nexus Point."





SNOW was drifting down. The cab-driver glanced at the black, quiet library, shook his head and pulled away, leaving black, wet tracks in the thin snow.

The pale-eyed man looked about him irritably. "You!" he cried, waking Mooney from a dream of possessing the next ten years of stock-market reports. "You! Where is this Vale of Cashmere?"

"Right this way, Harse, right this way," said Mooney placatingly.

There was a wide sort of traffic circle — Grand Army Plaza was the name of it — and there were a few cars going around it. But not many, and none of them looked like police cars. Mooney looked up and down the broad, quiet streets.

"Across here," he ordered, and led the time traveler toward the edge of the park. "We can't go in the main entrance. There might be cops."

"Cops?"

"Policemen. Law-enforcement officers. We'll just walk down here a way and then hop over the wall. Trust me," said Mooney, in the voice that had put frozen-food lockers into so many suburban homes.

The look from those pale eyes was anything but a look of trust, but Harse didn't say anything.

He stared about with an expression of detached horror, like an Alabama gentlewoman condemned to walk through Harlem.

"Now!" whispered Mooney urgently.

And over the wall they went.

They were in a thicket of shrubs and brush, snow-laden, the snow sifting down into Mooney's neck every time he touched a branch, which was always; he couldn't avoid it. They crossed a path and then a road—long, curving, broad, white, empty. Down a hill, onto another path. Mooney paused, glancing around.

"You know where you are. Going?"

"I think so. I'm looking for cops." None in sight. Mooney frowned. What the devil did the police think they were up to? They passed laws; why weren't they around to enforce them?

Mooney had his landmarks well in mind. There was the Drive, and there was the fork he was supposed to be looking for. It wouldn't be hard to find the path to the Vale. The only thing was, it was kind of important to Mooney's hope of future prosperity that he find a policeman first. And time was running out.

He glanced at the luminous dial of his watch — self-winding, shockproof, non-magnetic; the man in the hotel's jewelry shop had assured him only yesterday

that he could depend on its time-keeping as on the beating of his heart. It was nearly a quarter of one.

"Come along, come along!" grumbled Harse.

Mooney stalled: "I — I think we'd better go along this way. It *ought* to be down there —"

He cursed himself. Why hadn't he gone in the main entrance, where there was sure to be a cop? Harse would never have known the difference. But there was the artist in him that wanted the thing done perfectly, and so he had held to the pretense of avoiding police, had skulked and hidden. And now —

"Look!" he whispered, pointing.

Harse spat soundlessly and turned his eyes where Mooney was pointing.

Yes. Under a distant light, a moving figure, swinging a night-stick.

Mooney took a deep breath and planted a hand between Harse's shoulder blades.

"Run!" he yelled at the top of his voice, and shoved. He sounded so real, he almost convinced himself. "We'll have to split up — I'll meet you there. Now *run!*"

VI

OH, CLEVER Mooney! He crouched under a snowy tree, watching the man from the

future speed effortlessly away . . . in the wrong direction.

The cop was hailing him; clever cop! All it had taken was a couple of full-throated yells and at once the cop had perceived that someone was in the park. But cleverer than any cop was Mooney.

Men from the future. Why, thought Mooney contentedly, no Mrs. Meyerhauser of the suburbs would have let me get away with a trick like that to sell her a freezer. There's going to be no problem at all. I don't have to worry about a thing. Mooney can take care of himself!

By then, he had caught his breath — and time was passing, passing.

He heard a distant confused yelling. Harse and the cop? But it didn't matter. The only thing that mattered was getting to the Nexus Point at one minute past one.

He took a deep breath and began to trot. Slipping in the snow, panting heavily, he went down the path, around the little glade, across the covered bridge.

He found the shallow steps that led down to the Vale.

And there it was below him: a broad space where walks joined, and in the space a thing shaped like a dinosaur egg, rounded and huge. It glowed with a silvery sheen.

Confidently, Mooney started

down the steps toward the egg and the moving figures that flitted soundlessly around it. Harse was not the only time traveler, Mooney saw. Good, that might make it all the simpler. Should he change his plan and feign amnesia, pass himself off as one of their own men?

Or —

A movement made him look over his shoulder.

Somebody was standing at the top of the steps. "Hell's fire," whispered Mooney. He'd forgotten all about that aboriginal law; and here above him stood a man in a policeman's uniform, staring down with pale eyes.

No, not a policeman. The face was — Harse's.

Mooney swallowed and stood rooted.

"You!" Harse's savage voice came growling. "You are to stand. Still?"

Mooney didn't need the order; he couldn't move. No twentieth-century cop was a match for Harse, that was clear; Harse had bested him, taken his uniform away from him for camouflage — and here he was.

Unfortunately, so was Howard Mooney.

The figures below were looking up, pointing and talking; Harse from above was coming down. Mooney could only stand, and wish — wish that he were

back in Sea Bright, living on cookies and stale tea, wish he had planned things with more intelligence, more skill — perhaps even with more honesty. But it was too late for wishing.

Harse came down the steps, paused a yard from Mooney, scowled a withering scowl — and passed on.

He reached the bottom of the steps and joined the others waiting about the egg. They all went inside.

The glowing silvery colors winked and went out. The egg flamed purple, faded, turned transparent and disappeared.

Mooney stared and, yelling a demand for payment, ran stumbling down the steps to where it had been. There was a round thawed spot, a trampled patch — nothing else.

They were gone . . .

Almost gone. Because there was a sudden bright wash of flame from overhead — cold silvery flame. He looked up, dazzled. Over him, the egg was visible as thin smoke, hovering. A smoky, half-transparent hand reached out of a port. A thin, reedy voice cried: "I promised you. Pay?"

And the silvery dispatch-case sort of thing, the survival kit, dropped soundlessly to the snow beside Mooney.

When he looked up again, the egg was gone for good.

HE WAS clear back to the hotel before he got a grip on himself — and then he was drunk with delight. Honest Harse! Splendidly trustable Harse! Why, all this time, Mooney had been so worried, had worked so hard — and the whole survival kit was his, after all!

He had touched it gingerly before picking it up but it didn't shock him; clearly the protective devices, whatever they were, were off.

He sweated over it for an hour and a half, looking for levers, buttons, a slit that he might pry wider with the blade of a knife. At last he kicked it and yelled, past endurance: "Open up, damn you!"

It opened wide on the floor before him.

"Oh, bless your heart!" cried Mooney, falling to his knees to drag out the string of wampum, the little mechanical mice, the viewing-machine sort of thing. Treasures like those were beyond price; each one might fetch a fortune, if only in the wondrous new inventions he could patent if he could discover just how they worked.

But where were they?

Gone! The wampum was gone. The goggles were gone. Everything was gone — the little flat canisters, the map instruments, everything but one thing.

There was, in a corner of the case, a squarish, sharp-edged thing that Mooney stared at blindly for a long moment before he recognized it. It was a part — only a part — of the jointed construction that Harse had used to rid himself of undesirables by bathing them in blue light.

What a filthy trick! Mooney all but sobbed to himself.

He picked up the squarish thing bitterly. Probably it wouldn't even work, he thought, the world a ruin around him. It wasn't even the whole complete weapon.

Still —

There was a grooved, saddle-shaped affair that was clearly a sort of trigger; it could move forward or it could move back. Mooney thought deeply for a while.

Then he sat up, held the thing carefully away from him with the pointed part toward the wall and pressed, ever so gently pressed forward on the saddle-shaped thumb-trigger.

The pale blue haze leaped out, swirled around and, not finding anything alive in its range, dwindled and died.

A HA, THOUGHT Mooney, not everything is lost yet! Surely a bright young man could find some use for a weapon like this which removed, if it did not kill,

which prevented any nastiness about a corpse turning up, or a messy job of disposal.

Why not see what happened if the thumb-piece was moved backward?

Well, why not? Mooney held the thing away from him, hesitated, and slid it back.

There was a sudden shivering tingle in his thumb, in the gadget he was holding, running all up and down his arm. A violet haze, very unlike the blue one, licked soundlessly forth — not burning, but destroying as surely as flame ever destroyed; for where the haze touched the gadget itself, the kit, everything that had to do with the man from the future, it seared and shattered. The gadget fell into white crystalline powder in Mooney's hand and the case itself became a rectangular shape traced in white powder ridges on the rug.

Oh, no! thought Mooney, even before the haze had gone. It can't be!

The flame danced away like a cloud, spreading and rising. While Mooney stared, it faded away, but not without leaving something behind.

Mooney threw his taut body backward, almost under the bed. What he saw, he didn't believe; what he believed filled him with panic.

No wonder Harse had laughed

so when Mooney asked if its victims were dead. For there they were, all of them. Like djinn out of a jar, human figures jelled and solidified where the cloud of violet flame had not at all diffidently rolled.

They were alive, as big as life, and beginning to move — and so many of them! Three — five — six:

The truck-driver, yes, and a man in long red flannel underwear who must have been the policeman, and Uncle Lester, and the bartender's brother, and the chambermaid, and a man Mooney didn't know.

They were there, all of them; and they came toward him, and oh! but they were angry!

— FREDERIK POHL

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the language of love

By ROBERT SHECKLEY

*Toms was absolutely correct —
why shouldn't a lover be able
to whisper semantically exact
somethings into a girl's ear?*

JEFFERSON TOMS went into an auto-cafe one afternoon after classes, to drink coffee and study. He sat down, philosophy texts piled neatly before him, and saw a girl directing the robot waiters. She had smoky-gray eyes and hair the color of a rocket exhaust. Her figure was slight but sweetly curved and, gazing at it, Toms felt a lump in his throat and a sudden recollection of autumn, evening, rain and candlelight.

This was how love came to Jefferson Toms. Although he was ordinarily a very reserved young man, he complained about the robot service in order to meet her. When they did meet, he was inarticulate, overwhelmed by feel-

ing. Somehow, though, he managed to ask her for a date.

The girl, whose name was Doris, was strangely moved by the stocky, black-haired young student, for she accepted at once. And then Jefferson Toms' troubles began.

He found love delightful, yet extremely disturbing, in spite of his advanced studies in philosophy. But love was a confusing thing even in Toms' age, when spaceliners bridged the gaps between the worlds, disease lay dead, war was inconceivable, and just about anything of any importance had been solved in an exemplary manner.

Old Earth was in better shape than ever before. Her cities were

Illustrated by GAUGHAN

bright with plastic and stainless steel. Her remaining forests were carefully tended bits of greenery where one might picnic in perfect safety, since all beasts and insects had been removed to sanitary zoos which reproduced their living conditions with admirable skill.

Even the climate of Earth had been mastered. Farmers received their quota of rain between three and three-thirty in the morning, people gathered at stadiums to watch a program of sunsets, and a tornado was produced once a year in a special arena as part of the World Peace Day Celebration.

But love was as confusing as ever and Toms found this distressing.

He simply could not put his feelings into words. Such expressions as "I love you," "I adore you," "I'm crazy about you" were overworked and inadequate. They conveyed nothing of the depth and fervor of his emotions. Indeed they cheapened them, since every stereo, every second-rate play was filled with similar words. People used them in casual conversation and spoke of how much they *loved* pork chops, *adored* sunsets, were *crazy about* tennis.

Every fiber of Toms' being revolted against this. Never, he swore, would he speak of his love

in terms used for pork chops. But he found, to his dismay, that he had nothing better to say.

HE BROUGHT the problem to his philosophy professor.

"Mr. Toms," the professor said, gesturing wearily with his glasses, "ah—love, as it is commonly called, is not an operational area with us as yet. No significant work has been done in this field, aside from the so-called Language of Love of the Tyanian race."

This was no help. Toms continued to muse on love and think lengthily of Doris. In the long haunted evenings on her porch, when the shadows from the trellis vines crossed her face, revealing and concealing it, Toms struggled to tell her what he felt. And since he could not bring himself to use the weary commonplaces of love, he tried to express himself in extravagances.

"I feel about you," he would say, "the way a star feels about its planet."

"How immense!" she would answer, immensely flattered at being compared to anything so cosmic.

"That's not what I meant," Toms amended. "The feeling I was trying to express was more—well, for example, when you walk, I am reminded of—"

"Of a what?"

"A doe in a forest glade," Toms said, frowning.

"How charming!"

"It wasn't intended to be charming. I was trying to express the awkwardness inherent in youth and yet —"

"But, honey," she said, "I'm not awkward. My dancing teacher —"

"I didn't mean *awkward*. But the essence of awkwardness is — is —"

"I understand," she said.

But Toms knew she didn't.

So he was forced to give up extravagances. Soon he found himself unable to say anything of any importance to Doris, for it was not what he meant, nor even close to it.

The girl became concerned at the long, moody silences which developed between them.

"Jeff," she would urge, "surely you can say *something*!"

Toms shrugged his shoulders.

"Even if it isn't absolutely what you mean."

Toms sighed.

"Please," she cried, "say anything at all! I can't stand this!"

"Oh, hell —"

"Yes?" she breathed, her face transfigured.

"That wasn't what I meant," Toms said, relapsing into his gloomy silence.

At last he asked her to marry him. He was willing to admit that he "loved" her — but he refused

to expand on it. He explained that a marriage must be founded upon truth or it is doomed from the start. If he cheapened and falsified his emotions at the beginning, what could the future hold for them?

Doris found his sentiments admirable, but refused to marry him.

"You must *tell* a girl that you love her," she declared. "You have to tell her a hundred times a day, Jefferson, and even then it's not enough."

"But I do love you!" Toms protested. "I mean to say I have an emotion corresponding to —"

"Oh, stop it!"

In this predicament, Toms thought about the Language of Love and went to his professor's office to ask about it.

"WE ARE told," his professor said, "that the race indigenous to Tyana II had a specific and unique language for the expression of sensations of love. To say 'I love you' was unthinkable for Tyanians. They would use a phrase denoting the exact kind and class of love they felt at that specific moment, and used for no other purpose."

Toms nodded, and the professor continued. "Of course, developed with this Language was, necessarily, a technique of love-making quite incredible in its per-

fection. We are told that it made all ordinary techniques seem like the clumsy pawing of a grizzly in heat." The professor coughed in embarrassment.

"It is precisely what I need!" Toms exclaimed.

"Ridiculous," said the professor. "The technique might be interesting, but your own is doubtless sufficient for most needs. And the Language, by its very nature, can be used with only one person. To learn it impresses me as wasted energy."

"Labor for love," Toms said, "is the most worthwhile work in the world, since it produces a rich harvest of feeling."

"I refuse to stand here and listen to bad epigrams. Mr. Toms, why all this fuss about love?"

"It is the only perfect thing in this world," Toms answered fervently. "If one must learn a special language to appreciate it, one can do no less. Tell me, is it far to Tyana II?"

"A considerable distance," his professor said, with a thin smile. "And an unrewarding one, since the race is extinct."

"Extinct! But why? A sudden pestilence? An invasion?"

"It is one of the mysteries of the Galaxy," his professor said somberly.

"Then the Language is lost!"

"Not quite. Twenty years ago, an Earthman named George Var-

ris went to Tyana and learned the Language of Love from the last remnants of the race." The professor shrugged his shoulders. "I never considered it sufficiently important to read his scientific papers."

Toms looked up Varris in the *Interspatial Explorers Who's Who* and found that he was credited with the discovery of Tyana, had wandered around the frontier planets for a time, but at last had returned to deserted Tyana, to devote his life to investigating every aspect of its culture.

After learning this, Toms thought long and hard. The journey to Tyana was a difficult one, time-consuming and expensive. Perhaps Varris would be dead before he got there, or unwilling to teach him the Language. Was it worth the gamble?

"Is love worth it?" Toms asked himself, and knew the answer.

So he sold his ultra-fi, his memory recorder, his philosophy texts, and several stocks his grandfather had left him, and booked passage to Cranthis IV, which was the closest he could come to Tyana on a scheduled spaceway. And after all his preparations had been made, he went to Doris.

"When I return," he said, "I will be able to tell you exactly how much—I mean the particular quality and class of—I mean, Doris, when I have mastered the

Tyanian Technique, you will be loved as no woman has ever been loved!"

"Do you mean that?" she asked, her eyes glowing.

"Well," Toms said, "the term 'loved' doesn't quite express it. But I mean something very much like it."

"I will wait for you, Jeff," she said. "But—please don't be too long."

Jefferson Toms nodded, blinked back his tears, clutched Doris inarticulately, and hurried to the spaceport.

Within the hour, he was on his way.

FOUR months later, after considerable difficulties, Toms stood on Tyana, on the outskirts of the capital city. Slowly he walked down the broad, deserted main thoroughfare. On either side of him, noble buildings soared to dizzy heights. Peering inside one, Toms saw complex machinery and gleaming switchboards. With his pocket Tyana-English dictionary, he was able to translate the lettering above one of the buildings.

It read: COUNSELING SERVICES FOR STAGE-FOUR LOVE PROBLEMS.

Other buildings were much the same, filled with calculating machinery, switchboards, ticker tapes, and the like. He passed THE INSTITUTE FOR RESEARCH

INTO AFFECTION DELAY, stared at the two-hundred-story HOME FOR THE EMOTIONALLY RETARDED, and glanced at several others. Slowly the awesome, dazzling truth dawned upon him.

Here was an entire city given over to the research and aid of love.

He had no time for further speculation. In front of him was the gigantic GENERAL LOVE SERVICES BUILDING. And out of its marble hallway stepped an old man.

"Who the hell are you?" the old man asked.

"I am Jefferson Toms, of Earth. I have come here to learn the Language of Love, Mr. Varris."

Varris raised his shaggy white eyebrows. He was a small, wrinkled old man, stoop-shouldered and shaky in the knees. But his eyes were alert and filled with a cold suspicion.

"Perhaps you think the Language will make you more attractive to women," Varris said. "Don't believe it, young man. Knowledge has its advantages, of course. But it has distinct drawbacks, as the Tyanians discovered."

"What drawbacks?" Toms asked.

Varris grinned, displaying a single yellow tooth. "You wouldn't understand, if you don't already know. It takes knowledge to un-

derstand the limitations of knowledge."

"Nevertheless," Toms said, "I want to learn the Language."

Varris stared at him thoughtfully. "But it is not a simple thing, Toms. The Language of Love, and its resultant technique, is every bit as complex as brain surgery or the practice of corporation law. It takes work, much work, and a talent as well."

"I will do the work. And I'm sure I have the talent."

"Most people think that," Varris said, "and most of them are mistaken. But never mind, never mind. It's been a long time since I've had any company. We'll see how you get on, Toms."

Together they went into the General Services Building, which Varris called his home. They went to the Main Control Room, where the old man had put down a sleeping bag and set up a camp stove. There, in the shadow of the giant calculators, Toms' lessons began.

VARRIS was a thorough teacher. In the beginning, with the aid of a portable Semantic Differentiator, he taught Toms to isolate the delicate apprehension one feels in the presence of a to-be-loved person, to detect the subtle tensions that come into being as the potentiality of love draws near.

These sensations, Toms learned, must never be spoken of directly, for frankness frightens love. They must be expressed in simile, metaphor and hyperbole, half-truths and white lies. With these, one creates an atmosphere and lays a foundation for love. And the mind, deceived by its own predisposition, thinks of booming surf and raging sea, mournful black rocks and fields of green corn.

"Nice images," Toms said admiringly.

"Those were samples," Varris told him. "Now you must learn them all."

So Toms went to work memorizing great long lists of natural wonders, to what sensations they were comparable, and at what stage they appeared in the anticipation of love. The Language was thorough in this regard. Every state or object in nature for which there was a response in love-anticipation had been catalogued, classified and listed with suitable modifying adjectives.

When he had memorized the list, Varris drilled him in perceptions of love. Toms learned the small, strange things that make up a state of love. Some were so ridiculous that he had to laugh.

The old man admonished him sternly. "Love is a serious business, Toms. You seem to find some humor in the fact that love



is frequently predisposed by wind speed and direction."

"It seems foolish," Toms admitted.

"There are stranger things than that," Varris said, and mentioned another factor.

Toms shuddered. "*That* I can't believe. It's preposterous. Everyone knows —"

"If everyone knows how love operates, why hasn't someone reduced it to a formula? Murky thinking, Toms, murky thinking is the answer, and an unwillingness to accept cold facts. If you cannot face them —"

"I can face anything," Toms said, "if I have to. Let's continue."

AS THE weeks passed, Toms learned the words which express the first quickening of interest, shade by shade, until an attachment is formed. He learned what that attachment really is and the three words that express it. This brought him to the rhetoric of sensation, where the body becomes supreme.

Here the Language was specific instead of allusive, and dealt with feelings produced by certain words, and above all, by certain physical actions.

A startling little black machine taught Toms the thirty-eight separate and distinct sensations which the touch of a hand can

engender, and he learned how to locate that sensitive area, no larger than a dime, which exists just below the right shoulder blade.

He learned an entirely new system of caressing, which caused impulses to explode — and even implode — along the nerve paths and to shower colored sparks before the eyes.

He was also taught the social advantages of conspicuous desensitization.

He learned many things about physical love which he had dimly suspected, and still more things which *no one* had suspected.

It was intimidating knowledge. Toms had imagined himself to be at least an adequate lover. Now he found that he knew nothing, nothing at all, and that his best efforts had been comparable to the play of amorous hippopotami.

"But what else could you expect?" Varris asked. "Good love-making, Toms, calls for more study, more sheer intensive labor than any other acquired skill. Do you still wish to learn?"

"Definitely!" Toms said. "Why, when I'm an expert on love-making, I'll — I can —"

"That is no concern of mine," the old man stated. "Let's return to our lessons."

Next, Toms learned the Cycles of Love. Love, he discovered, is dynamic, constantly rising and

falling, and doing so in definite patterns. There were fifty-two major patterns, three hundred and six minor patterns, four general exceptions, and nine specific exceptions.

Toms learned them better than his own name.

He acquired the uses of the Tertiary Touch. And he never forgot the day he was taught what a bosom *really* was like.

"But I can't say that!" Toms objected, appalled.

"It's true, isn't it?" Varris insisted.

"No! I mean—yes, I suppose it is. But it's unflattering."

"So it *seems*. But examine, Toms. Is it *actually* unflattering?"

Toms examined and found the compliment that lies beneath the insult, and so he learned another facet of the Language of Love.

Soon he was ready for the study of the Apparent Negations. He discovered that for every degree of love, there is a corresponding degree of hate, which is in itself a form of love. He came to understand how valuable hate is, how it gives substance and body to love, and how even indifference and loathing have their place in the nature of love.

VARRIS gave him a ten-hour written examination, which Toms passed with superlative marks. He was eager to fin-

ish, but Varris noticed that a slight tic had developed in his student's left eye and that his hands had a tendency to shake.

"You need a vacation," the old man informed him.

Toms had been thinking this himself. "You may be right," he said, with barely concealed eagerness. "Suppose I go to Cythera V for a few weeks."

Varris, who knew Cythera's reputation, smiled cynically. "Eager to try out your new knowledge?"

"Well, why not? Knowledge is to be used."

"Only after it's mastered."

"But I *have* mastered it! Couldn't we call this field work? A thesis, perhaps?"

"No thesis is necessary," Varris said.

"But damn it all," Toms exploded, "I should do a little experimentation! I should find out for myself how all this works. Especially Approach 33-CV. It sounds fine in theory, but I've been wondering how it works out in actual practice. There's nothing like direct experience, you know, to reinforce —"

"Did you journey all this way to become a super-seducer?" Varris asked, with evident disgust.

"Of course not," Toms said. "But a little experimentation wouldn't —"

"Your knowledge of the me-

chanics of sensation would be barren, unless you understand love, as well. You have progressed too far to be satisfied with mere thrills."

Toms, searching his heart, knew this to be true. But he set his jaw stubbornly. "I'd like to find out *that* for myself, too."

"You may go," Varris said, "but don't come back. No one will accuse me of loosing a callous scientific seducer upon the Galaxy."

"Oh, all right. To hell with it. Let's get back to work."

"No. Look at yourself! A little more unrelieved studying, young man, and you will lose the capacity to make love. And wouldn't that be a sorry state of affairs?"

Toms agreed that it would certainly be.

"I know the perfect spot," Varris told him, "for relaxation from the study of love."

THEY entered the old man's spaceship and journeyed five days to a small unnamed planetoid. When they landed, the old man took Toms to the bank of a swift flowing river, where the water ran fiery red, with green diamonds of foam. The trees that grew on the banks of that river were stunted and strange, and colored vermilion. Even the grass was unlike grass, for it was orange and blue.

"How alien!" gasped Toms.

"It is the least human spot I've found in this humdrum corner of the Galaxy," Varris explained. "And believe me, I've done some looking."

Toms stared at him, wondering if the old man was out of his mind. But soon he understood what Varris meant.

For months, he had been studying human reactions and human feelings, and surrounding it all was the now suffocating feeling of soft human flesh. He had immersed himself in humanity, studied it, bathed in it, eaten and drunk and dreamed it. It was a relief to be here, where the water ran red and the trees were stunted and strange and vermilion, and the grass was orange and blue, and there was no reminder of Earth.

Toms and Varris separated, for even each other's humanity was a nuisance. Toms spent his days wandering along the river edge, marveling at the flowers which moaned when he came near them. At night, three wrinkled moons played tag with each other, and the morning sun was different from the yellow sun of Earth.

At the end of a week, refreshed and renewed, Toms and Varris returned to G'cel, the Tyanian city dedicated to the study of love.

Toms was taught the five hundred and six shades of Love Proper, from the first faint possi-

bility to the ultimate feeling, which is so powerful that only five men and one woman have experienced it, and the strongest of them survived less than an hour.

Under the tutelage of a bank of small, interrelated calculators, he studied the intensification of love.

He learned all of the thousand different sensations of which the human body is capable, and how to augment them, and how to intensify them until they become unbearable, and how to make the unbearable bearable, and finally pleasurable, at which point the organism is not far from death.

After that, he was taught some things which have never been put into words and, with luck, never will.

"And that," Varris said one day, "is everything."

"Everything?"

"Yes, Toms. The heart has no secrets from you. Nor, for that matter, has the soul, or mind, or the viscera. You have mastered the Language of Love. Now return to your young lady."

"I will!" cried Toms. "At last she will know!"

"Drop me a postcard," Varris said. "Let me know how you're getting on."

"I'll do that," Toms promised. Fervently he shook his teacher's hand and departed for Earth.

AT THE end of the long trip, Jefferson Toms hurried to Doris' home. Perspiration beaded his forehead and his hands were shaking. He was able to classify the feeling as Stage Two Anticipatory Tremors, with mild masochistic overtones. But that didn't help—this was his first field work and he was nervous. Had he mastered *everything*?

He rang the bell.

She opened the door and Toms saw that she was more beautiful than he had remembered, her eyes smoky-gray and misted with tears, her hair the color of a rocket exhaust, her figure slight but sweetly curved. He felt again the lump in his throat and sudden memories of autumn, evening, rain and candlelight.

"I'm back," he croaked.

"Oh, Jeff," she said, very softly. "Oh, Jeff."

Toms simply stared, unable to say a word.

"It's been so long, Jeff, and I kept wondering if it was all worth it. Now I know."

"You — know?"

"Yes, my darling! I waited for you! I'd wait a hundred years, or a thousand! I love you, Jeff!"

She was in his arms.

"Now tell me, Jeff," she said. "Tell me!"

And Toms looked at her, and felt, and sensed, searched his classifications, selected his modifiers,

checked and double-checked. And after much searching, and careful selection, and absolute certainty, and allowing for his present state of mind, and not forgetting to take into account climatic conditions, phases of the Moon, wind speed and direction, Sun spots, and other phenomena which have their due effect upon love, he said:

"My dear, I am rather fond of you."

"Jeff! Surely you can say more than that! The Language of Love —"

"The Language is damnably precise," Toms said wretchedly. "I'm sorry, but the phrase 'I am rather fond of you' expresses precisely what I feel."

"Oh, Jeff!"

"Yes," he mumbled.

"Oh, damn you, Jeff!"

THERE was, of course, a painful scene and a very painful separation. Toms took to traveling.

He held jobs here and there, working as a riveter at Saturn-Lockheed, a wiper on the Helg-Vinosce Trader, a farmer for a while on a kibbutz on Israel IV. He bummed around the Inner Dalmian System for several years, living mostly on handouts. Then, at Novilocessile, he met a pleasant, brown-haired girl, courted her and, in due course, married

her and set up housekeeping.

Their friends say that the Tomses are tolerably happy, although their home makes most people uncomfortable. It is a pleasant enough place, but the rushing red river nearby makes people edgy. And who can get used to vermilion trees, and orange-and-blue grass, and moaning flowers, and three wrinkled moons playing tag in the alien sky?

Toms likes it, though, and Mrs. Toms is, if nothing else, a flexible young lady.

Toms wrote a letter to his philosophy professor on Earth, saying that he had solved the problem of the demise of the Tyanian race, at least to his own satisfaction. The trouble with scholarly research, he wrote, is the inhibiting effect it has upon action. The Tyanians, he was convinced, had been so preoccupied with the science of love, after a while they just didn't get around to making any.

And eventually he sent a short postcard to George Varris. He simply said that he was married, having succeeded in finding a girl for whom he felt "quite a substantial liking."

"Lucky devil," Varris growled, after reading the card. "'Vaguely enjoyable' was the best I could ever find."

— ROBERT SHECKLEY

**for
your
information**



WHO'LL OWN THE PLANETS?

IF CUSTOMS and attitudes had not changed during the last few centuries, this is what would happen on the day after a ship lands on Mars:

— If the name of the ship were *Miguel de Cervantes Saavedra* and that of the captain Don Fran-

cisco de Quintana y Molino, there would be a procession with banners of the cross around the landing site, two masses would be said, and in conclusion of the ceremony, a cross would be erected . . .

—If the name of the ship were *Dom Henrique* and the name of the captain Joao Dias, there would be the erection of a cross, a mass would be said and, in conclusion, a monument with a coat of arms would be placed . . .

—If the name of the ship were *Ilya Murometz* and that of the captain Vladimir Ossipovitch Kosmodemyanski, there would be a religious ceremony culminating in the ceremonial burying of copper shields with a coat of arms . . .

—If the name of the ship were *Queen Elizabeth* and that of the captain Sir Cecil Hawkins, there would be a brisk service and the captain would perform the "turf and sprig" ceremony, taking a handful of soil and any small plant in reach to take home with him. Then the British flag would be hoisted . . .

—And if the name of the ship were *Siegfried*, commanded by Captain Wolfgang von Greiffenklau, there would be an even brisker service. Then everybody would stand at attention while the German flag is being hoisted. Possibly the captain would stick his dress saber into the ground,

or else (another tradition) pierce his own cap with it.

I don't know what would happen if the ship were named the *Robert H. Goddard* and the captain F. Warren Smith, for all the customs mentioned had gone out of use at the time the thirteen states decided to be independent. But these were the actual customs for taking possession of an island or a coast.

Needless to say, none of these ceremonies would carry any legal validity nowadays and the International Court at The Hague wouldn't pay the slightest attention to even the most elaborate ceremony if the participants therein pack up and blast off for home at a later date.

THE law . . . Now just a moment. There is no space law yet, is there? The answer to that question is a clear "no" if you mean "legislation" when you say "law." As Rear Admiral Chester Ward said in a lecture on space law during the eleventh annual meeting of the American Rocket Society in November, 1956: "It is a fundamental principle of law-making that you can't legislate without facts. That principle applies just as well to the law of space as it does to the law that governs our actions here on the surface of the earth."

Since there are no "facts" yet

—that is to say, no spaceships with known performance characteristics and, by implication, performance restrictions—there can be no legislation.

But just because there are no such “facts” yet, the term “law” may be employed to mean what would otherwise be called a legal principle or a legal attitude. And that certainly exists. I have listened to about half a dozen lectures on the foundations and principles of space law during the last half dozen years—they were not evenly spaced, though—and found enough agreement between the various experts to make a resumé possible.

The earliest dissertation on space law saw print in 1932. Its title was just that: “The Law of Space,” but in German *Das Welt-raum-Recht* and it was written by a Dr. Vladimir Mandl, who was then a practicing lawyer in Pilsen, Czechoslovakia. I freely admit that I hadn’t looked at it since 1932 when Dr. Mandl sent me a copy and I have just read it to see what he had to say then.

Well, the net yield was tiny, for Dr. Mandl devoted most of his small book to investigating such legal problems as liability for accidental damage, etc., etc., and all that with special reference to German law. But he did say that space outside the atmosphere should be regarded as an area

without existing or possible sovereignty, a point on which all later legal writers fully agreed.

The idea is very simply that open space is compared to the open sea. That no nation has, or can have, sovereignty over the open sea is a legal principle that has been firmly established for centuries.

WE tend to think this is so obvious that it need not be mentioned, but there was a time—best nailed down as the time in which Columbus lived—when countries and even cities claimed ownership and sovereignty over oceans.

The Republic of Venice said it owned the Adriatic Sea. The city of Genoa countered this by owning the Ligurian Sea. Portugal claimed the Indian Ocean and the South Atlantic as hers, while Spain was content to own the Pacific Ocean (and the Gulf of Mexico). And the only reason that the Hanseatic League never said it owned the North Sea and the Baltic was that England, Norway and Denmark would have put in claims for the North Sea, too, and Denmark, Sweden and the countries of the eastern Baltic might have had strong opinions about the sole proprietorship of the Baltic.

Crowding sometimes has useful aspects.

ARGUMENT that the high seas should be free for the lawful use of all was first presented by the Dutch jurist Grotius, who is universally recognized as the "Father of International Law." But the fact that no nation, or organization of countries like the United Nations, has sovereignty over the high seas certainly does not make every ocean a lawless place. It developed its own law, based on practices which navigators found either efficient or convenient, and which were later formulated.

The statement that the laws which govern the sea should be extended to apply to interplanetary space was voiced—for the first time, as far as I know—by Oscar Schachter, deputy director of the Legal Department of the United Nations, on the occasion of the First Space Travel Symposium at the Hayden Planetarium in New York City in October, 1951—appropriately enough, on Columbus Day.

But in order to gain the open sea, you have to traverse coastal waters, and in order to gain open space, you have to traverse the atmosphere. As regards coastal waters, the legal situation is clear; the problems were thrashed out and settled a century ago. The first three miles of ocean are considered to be under the sovereignty of the country which

exercises sovereignty over the shoreline.

It has often been said that this figure of three miles was accepted because that used to be the range of the old coastal batteries. This sounded like a logical and convincing reason. Unfortunately, one could draw the conclusion from it that things belong to you for as far as you can shoot. That kind of reasoning would lead to declaring that "might is right" even legally.

Personally, I never quite believed that the three-mile zone had been derived from the range of the coastal guns, because a three-mile range did not become possible until many years after the limit had been accepted. And recently I learned that "three miles" was just a more modern way of expressing an older measurement, namely, one marine league.

There is something else about this three-mile zone which strikes me as either odd or significant—I don't know which. If what follows should be just a coincidence, it is a rare one.

There is a simplified formula which says you multiply the square root of h by 1.17 and you get D . The letter h stands for elevation above sea level and must be expressed in feet. The result D must be read in nautical miles and gives you the distance of the

horizon at sea. If you take h to be six feet, the result is three miles (not nautical miles).

In other words, the three-mile limit coincides with the actual distance of the horizon for a man standing at the seashore. Remember that his feet will not be at actual sea level but a few inches above it. The refraction in the atmosphere is included in that conversion factor of 1.17.

TO RETURN to the legal aspects: most countries have accepted the three-mile limit and the United States recognizes no other, although there are a few countries which, for their own purposes (such as prosecution of smuggling), claim sovereignty over a longer distance, usually ten kilometers.

But while the countries "own" that much of the ocean, their ownership is not absolutely exclusive. There are exceptions. If a vessel, in order to pass from one tract of open sea to another one, has to navigate through sovereign waters, it can do so—it has the right of "innocent passage." (Whether naval vessels, in time of peace, have the right of innocent passage is disputed, but in time of peace, this problem is usually circumvented by prior agreement.)

When lawyers say "innocent passage," they usually mean

freighters and passenger liners, but it also applies to rescue missions or scientific expeditions.

Now we come to the main difficulty. It would be nice if one could reason that, since space is analogous to the open sea, the atmosphere is analogous to the three-mile zone, with the right of innocent passage for all. If we had had peace ever since the invention of the airplane, one probably would reason that way. But there are two complications, each one major.

The first is the very obvious right of self-defense, and there are more military aircraft than passenger liners and air freighters.

The second is that no figure has so far been universally accepted as the limit of the atmosphere.

When you ask a scientist what seems to be a simple question, "How deep is the atmosphere?" he will look somewhat unhappy, draw a deep breath, stall by lighting a pipe, cigar or cigarette and say: "What characteristics do you have in mind?" The problem is that you still get some effects, like the reflection of short radio waves, several hundred miles up. On the other hand, it seems unlikely that you'll find noticeable air resistance, even at speeds of several miles per second, above perhaps 120 miles.

About two years ago, in a discussion of this difficulty, a law

expert said that the *legal* limit might be determined by the height at which one can actually fly. Unfortunately I could not help him there. Jets and other air-breathing engines won't be able to go higher than, say, 70,000 feet.

But a large plastic balloon can go to 125,000 feet and a rocket-propelled plane still higher. Whether these "fly" or not is purely a question of definition. Is "flying" just moving through a space which still contains a little atmosphere, or is the term restricted to those altitudes where you still obtain some aerodynamic "lift"?

This, too, remains to be decided.

OUR next step in disentangling the legal problem is obviously to find out what is the "law" in the air, the air in which we are now flying if we want to get from one city to another in comfort and with dispatch. Here the situation is sad, partly because of past experiences, partly because of old aspects.

The Romans held that the landowner also owned the air above it "to the sky." This idea was perpetuated in English common law, which said (still in Latin): *Cujus est solum ejus est usque ad coelum*, which later was expressed in English as: "He who owns the soil, or surface of the

ground, owns, or has an exclusive right to, everything which is upon or above it to an indefinite height." (I don't know what practical importance that had, except when it came to the ownership of a bird shot on the wing.)

This personal and private ownership of the air and the sky above it was granted by the sovereign and "could be asserted only against other private citizens; the sovereign never parted with its paramount right to control the space above its territory." (Quotation from Andrew G. Haley's lecture *Basic Concepts of Space Law*, presented at the Annual Meeting of the American Rocket Society in Chicago in November, 1955; published in the society's journal *Jet Propulsion*, November issue, 1956.) In short, the attitude was the same as with the oceans.

As long as there was no human flight at all, or, at a later date, merely an occasional balloon, there was no legislation about the air. Lawyers say: *Minima non curat praetor*, which one may translate as: "Minor matters do not concern legislators." Not only was there no legislation, there was not even any theoretical reasoning.

The invention of the airplane changed this; in fact, one man was actually ahead of events. In 1902, at a meeting of the Insti-

tute of International Law, an expert named Paul Fauchille submitted a draft of a proposed convention on the regulation of aerial navigation. According to Haley, this draft was approved in a modified form in 1906.

Said Haley: "The convention would have made the air free to commerce and travel, just as the sea. The provision for national security measures, while vague and indeterminate, was a reasonable reservation of sovereign rights to protect against civil negligence or hostile action through the air, but it was not intended that any nation should usurp the air completely. The proposal was never implemented in an international convention."

I presume that it was still a case of *minima non curat praetor* with the few airships and planes which were around. At any event, nobody thought of prosecuting Blériot when he flew the English Channel and, so to speak, violated English air space.

BUT then the First World War came and it was one of the neutrals (generally a peaceful country in recent centuries) which had to defend vigorously the idea of sovereignty over its air space. This was Holland, lying as it does directly on the air route between England and Germany.

Of course there were violations. A couple of German zeppelin airships drifted off course in foggy weather (zeppelin ships, as a matter of principle, hid in drifting clouds to avoid being spotted, a method that may protect you but does not improve your navigation) and partly disabled seaplanes had to land in Dutch waters.

Right after the First World War, in October, 1919, the Paris Convention for the Regulation of Air Navigation was signed and "freedom of the air" was completely ruined in the very first article of this convention: *Les Hautes Parties Contractantes reconnaissent, que chaque Puissance a la souveraineté complète et exclusive sur l'espace atmosphérique au-dessus de son territoire;* "The High Contracting Parties recognize that every Power has complete and exclusive sovereignty over the air space above its territory."

Note the "complete and exclusive," and, of course, this included sovereignty over the three miles of ocean offshore. In practice, this complete and exclusive sovereignty was somewhat limited by rules of conduct.

The rules established, on the one hand, the right of innocent passage for non-military aircraft, and, on the other hand, the right to set up "prohibited zones" which

could not be flown over. But—and this turned out to be the worst feature in the long run—these rights applied only to those countries that signed the convention. Nations which were signatories had the right to make separate agreements with nations which were not, but in reality they mostly refused to make such agreements and spent their energy in keeping the non-signatories out.

As for the United States, its representatives signed the convention with the provision that American aircraft could fly over American "prohibited zones." But the Senate did not ratify the convention, so the United States ceased to be a signatory. However, we observed the rules just the same and finally made a general Western Hemisphere right-of-innocent-passage agreement.

There was a welter of additional conferences dealing with all kinds of side issues—such as cases of infectious disease discovered on an international flight—and then the Second World War came. Again each nation, and most especially the neutrals, had to assert all their rights vigorously.

NEAR the end of the war, another important convention on civil aviation took place, this time in Chicago. It ended in December, 1944, but again the main

article read the same, almost word for word, as the first article of the Paris convention. Something new had been added, however: "No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting state without special authorization by that state." This was the first recognition of the existence of guided missiles.

The possibilities and capabilities of aerial warfare being what they are, it is both natural and logical that every nation insist on absolute sovereignty over its "air space." The real trouble is that there is no definition of what is "air" in the term "air space." Since there is no natural upper limit to the height at which "aircraft capable of being flown without a pilot" (read: missiles) can fly, one might argue that there is no upper limit to the "air space." In the light of astronomical facts, this argument is plain nonsense.

As C. Wilfried Jenks of the International Labor Office in Geneva wrote in the *International and Comparative Law Quarterly* (January, 1956):

"Any projection of territorial sovereignty into space beyond the atmosphere would be inconsistent with the basic astronomical facts. The rotation of the earth on its own axis, its revolution around the sun, and the motions of the

sun and the planets through the galaxy all require that the relationship of particular sovereignties on the surface of the earth to space beyond the atmosphere is never constant for the smallest conceivable fraction of time. Such a projection into space of sovereignties based on particular areas of the earth's surface would give us a series of adjacent irregularly shaped cones with a constantly changing content. Celestial bodies would move in and out of these cones all the time. In these circumstances, the concept of a space cone of sovereignty is a meaningless and dangerous abstraction."

Admiral Ward, in his recent lecture, after saying in different words what I just quoted from Jenks, could indicate a way out:

"Professor Cooper, and other distinguished authorities, have pointed out that our development of a law of outer space is not restricted by our present agreements affirming each nation's sovereignty over the air, or the 'air space,' above it. These agreements relate strictly to the 'air space.' They apply only as far as the upper limits of the region in which air is sufficiently dense to support the flight of conventional aircraft—that is, those aircraft supported through reaction with the air. We are therefore free to develop a law of outer space, to

apply in areas above this region of relatively dense air, without restriction from our existing agreements relating to 'air space.' The lawmakers wait only for the physical facts of space to be supplied by the explorers, the scientists, the mathematicians and the physicists. With the physical facts in hand, we can attempt to set the upper limits of national sovereignty."

Admiral Ward went on to state that such an upper limit of sovereignty would not hamper national defense. The three-mile limit also does not hamper our naval operations and other defense measures at sea.

LET us say now that agreements have been reached, signed and ratified which set the upper limit of the "air space" at 50 kilometers, which is almost precisely 31 miles. Then we would get the following picture:

Up to a height of 31 miles, each nation has the "complete and exclusive sovereignty" first accepted in the Paris convention. Above that, there would be a zone with the right of innocent passage. For scientific reasons, this zone should not be lumped with "open space," because some physical phenomena due to a highly attenuated atmosphere can still be observed.

Open space may then be said to begin at a height of 250 kilo-

meters or 155 miles (I am putting kilometers first because, by Act of Congress, the customary American standard measurements are defined in terms of metric measurements), so that there are three legal zones.

The bottom zone, with its complete and exclusive sovereignty, would *not* compare to the three-mile zone but rather to rivers and inland lakes. The next zone, from 50 to 250 kilometers, would be comparable to the three-mile zone. And space above 250 kilometers would be comparable (better: analogous) to the high seas.

But there is still an amusing wrinkle—these three zones would logically be in existence *only* above land. They would not exist for three-quarters of the Earth's surface, for over the high seas, the freedom of the seas would extend into space with no legal zone in between. Or else you may say that the freedom of space would end where your ship gets wet with salt water. Then you are in the free and open seas.

Legal discussions may be interesting, but how does all this apply to the coming satellite shots? By an interesting combination of natural facts, these satellite shots happen to be about as "legal" as they can possibly be.

The Vanguard rockets, the satellite carriers, will be fired from

Patrick Air Force Base in Florida. American-made, they take off from American soil and, for a time to be measured in seconds, they will be in American air space above American waters. When they leave American air space, they are in the free air over the free ocean. By the time land is below again (the southern part of Africa), they have passed out of any air space and are in free space.

Of course, they are legal in another sense, too. They are part of the International Geophysical Year. Some sixty nations have not only not voiced any objections, but have promised support and assistance in observing the satellites. So that's that.

NOW how about that ship that lands on Mars and its captain who takes possession with or without ceremonies? In the first place, it is possible—even probable—that an agreement might be reached in the meantime that all "land" beyond the earth will be under the jurisdiction of the United Nations, unless inhabited by indigenous intelligent and reasoning beings. (In the latter case, naturally, *they* would have sovereignty.) All rights, including mining rights, if any, would take the form of concessions, leases or licenses from the United Nations.

But suppose it is not a case of the United Nations—which really means nations acting together instead of separately—but still a case of separate nations, generally at peace. There are some interesting analogies in the past and I'll quote Bouvet Island as an example. It is a small island, situated several hundred nautical miles to the SSW of the southern tip of Africa. The island itself is roughly circular, with a diameter of about five miles measured east to west and about half a mile less measured north to south. It is essentially just one large dead volcano, completely covered with glaciers.

Bouvet Island was discovered in 1739 by the French captain Lozier Bouvet. He thought it was just a northern cape of a much larger southern continent and named it *Cap de la Circoncision*. He made no legal claims. Since the area where the island is located is also characterized by the worst climatic conditions possible—frequent storms, long-lasting fogs, drifting ice—the island was “lost” for many years.

It was found again by the English captain James Lindsay in 1808. He tried to land but could not; by sailing around it, however, he established that it was an island. In December, 1825, the English ship *Sprightly* under Captain George Norris found the is-

land, sailed around it, and Captain Norris took possession of it (from shipboard) for the United Kingdom in the name of King George IV.

There followed another period of uncertainty whether the island existed at all, but in November, 1898, the German oceanographic expedition with the steamer *Valdivia* found it again. The Germans decided that landing would be very difficult and would not accomplish anything anyway, so they did their charting and mapping from aboard their comfortable steamer. And although they named the largest glacier they could see the *Kaiser Wilhelm Glacier*, they had no aspirations as to ownership. They were merely establishing the precise location and size of this British possession.

BUT in December, 1927, the Norwegian vessel *Norvegia* under Captain Axel Hornvedt reached Bouvet Island. A landing party went ashore and took formal possession for Norway in the name of King Haakon VII. England objected, pointing to its Captain Norris. England lost the dispute, for the men of the *Norvegia* had actually landed.

But it cannot be denied that Norway's title to the island, acquired in 1928, is none too solid. They did land, which was deemed

more important than prior discovery from a distance. But they have never exercised their sovereignty. And this has come to be an important point; if somebody else sneaked in during the antarctic night and established a colony, he might win out over Norway, since Norway has obviously been negligent in asserting its rights by possession.

The history of Bouvet Island may, in the future, become famous because of citations in legal arguments. In the meantime, it indicates that nobody will be able to "own" a planet by just saying so.

IF MERE discovery established ownership, then the naked-eye planets — Mercury, Venus, Mars, Jupiter and Saturn — would be common property. They were discovered by the Babylonians who left no heirs and assigns. Our moon would be community property, too.

Otherwise, Germany and England would fare best, with the largest chunks of celestial real estate: Germany could claim Neptune and England Uranus. But Uranus was discovered by

Herschel, who was German-born, and though he made the discovery from English soil, he may not yet have been an English citizen at that moment, which would produce an interesting legal problem.

The Netherlands would get Titan, Saturn's largest moon. Italy would get the four largest moons of Jupiter and possibly several of the smaller moons of Saturn, depending on whether their discoverer, Cassini, was still an Italian or already a Frenchman when he found them.

England, in addition to Uranus, would get all the four large moons of that planet, the larger moon of Neptune and two of the minor satellites of Saturn. The United States would get the two moons of Mars, a handful of the minor moons of Jupiter, one minor moon of Saturn, the smallest moon of Uranus, the smaller of the two moons of Neptune and the planet Pluto. Of course, practically all of us would "own" at least a few asteroids.

But remember, discovery by itself does not count. You've got to land on your asteroid — and stay there — to make it legal.

— WILLY LEY



FOUNDING FATHER

By CLIFFORD D. SIMAK

*His job was just to be first in
the hearts of his countrymen . . .
if he ever managed to find them!*

Illustrated by DILLON

WINSTON-KIRBY walked home across the moor just before the twilight hour and it was then, he felt, that the land was at its best. The sun was sinking into a crimson froth of clouds and the first gray-silver light began to run across the swales. There were moments

when it seemed all eternity grew quiet and watched with held breath.

It had been a good day and it would be a good homecoming, for the others would be waiting for him with the dinner table set and the fireplace blazing and the drinks set close at hand. It was a

pity, he thought, that they would not go walking with him, although, in this particular instance, he was rather glad they hadn't. Once in a while, it was a good thing for a man to be alone. For almost a hundred years, aboard the ship, there had been no chance to be alone.

But that was over now and they could settle down, just the six of them, to lead the kind of life they'd planned. After only a few short weeks, the planet was beginning to seem like home; in the years to come, it would become in truth a home such as Earth had never been.

Once again he felt the twinge of recurring wonder at how they'd ever got away with it. That Earth should allow six of its immortals to slip through its clutches seemed unbelievable. Earth had real and urgent need for all of its immortals, and that not one, but six, of them should be allowed to slip away, to live lives of their own, was beyond all logic. And yet that was exactly what had happened.

There was something queer about it, Winston-Kirby told himself. On the century-long flight from Earth, they'd often talked about it and wondered how it had come about. Cranford-Adams, he recalled, had been convinced that it was some subtle trap, but after a hundred years there was no evi-

dence of any trap and it had begun to seem Cranford-Adams must be wrong.

Winston-Kirby topped the gentle rise that he had been climbing and, in the gathering dusk, he saw the manor house—exactly the kind of house he had dreamed about for years, precisely the kind of house to be built in such a setting—except that the robots had built it much too large. But that, he consoled himself, was what one had to expect of robots. Efficient, certainly, and very well intentioned and obedient and nice to have around, but sometimes pretty stupid.

HE STOOD on the hilltop and gazed down upon the house. How many times had he and his companions, at the dinner table, planned the kind of house they would build? How often had they speculated upon the accuracy of the specifications given for this planet they had chosen from the Exploratory Files, fearful that it might not be in every actuality the way it was described?

But here, finally, it was—something out of Hardy, something from the Baskervilles—the long imagining come to comfortable reality.

There was the manor house, with the light shining from its windows, and the dark bulk of the outbuildings built to house

the livestock, which had been brought in the ship as frozen embryos and soon would be emerging from the incubators. And there the level land that in a few more months would be fields and gardens, and to the north the spaceship stood after years of roving. As he watched, the first bright star sprang out just beyond the spaceship's nose, and the spaceship and the star looked for all the world like a symbolic Christmas candle.

He walked down the hill, with the first night wind blowing in his face and the ancient smell of heather in the air, and was happy and exultant.

It was sinful, he thought, to be so joyful, but there was reason for it. The voyage had been happy and the planet-strike successful and here he was, the undisputed proprietor of an entire planet upon which, in the fullness of time, he would found a family and a dynasty. And he had all the time there was. There was no need to hurry. He had all of eternity if he needed it.

And, best of all, he had good companions.

They would be waiting for him when he stepped through the door. There would be laughter and a quick drink, then a leisurely dinner, and, later, brandy before the blazing fire. And there'd be talk — good talk, sober

and intimate and friendly.

It had been the talk, he told himself, more than anything else, which had gotten them sanely through the century of space flight. That and their mutual love and appreciation of the finer points of the human culture — understanding of the arts, love of good literature, interest in philosophy. It was not often that six persons could live intimately for a hundred years without a single spat, without a touch of cabin fever.

Inside the manor house, they would be waiting for him in the fire- and candlelight, with the drinks all mixed and the talk already started and the room would be warm with good fellowship and perfect understanding.

Cranford-Adams would be sitting in the big chair before the fire, staring at the flames and thinking, for he was the thinker of the group. And Allyn-Burbage would be standing, with one elbow on the mantel, a glass clutched in his hand and in his eyes the twinkle of good humor. Cosette-Middleton would be talking with him and laughing, for she was the gay one, with her elfin spirit and her golden hair. Anna-Quinze more than likely would be reading, curled up in a chair, and Mary-Foyle would be simply waiting, glad to be alive, glad to be with friends.

THESE, he thought, were the long companions of the trip, so full of understanding, so tolerant and gracious that a century had not dulled the beauty of their friendship.

Winston-Kirby hurried, a thing he almost never did, at the thought of those five who were waiting for him, anxious to be with them, to tell them of his walk across the moor, to discuss with them still again some details of their plans.

He turned into the walk. The wind was becoming cold, as it always did with the fall of darkness, and he raised the collar of his jacket for the poor protection it afforded.

He reached the door and stood for an instant in the chill, to savor the never-failing satisfaction of the massive timbering and the stout, strong squareness of the house. A place built to stand through the centuries, he thought, a place of dynasty with a sense of foreverness.

He pressed the latch and thrust his weight against the door and it came slowly open. A blast of warm air rushed out to greet him. He stepped into the entry hall and closed the door behind him. As he took off his cap and jacket and found a place to hang them, he stamped and scuffed his feet a little to let the others know that he had returned.

But there were no greetings for

him, no sound of happy laughter. There was only silence from the inner room.

He turned about so swiftly that his hand trailed across his jacket and dislodged it from the hook. It fell to the floor with a smooth rustle of fabric and lay there, a little mound of cloth.

His legs suddenly were cold and heavy, and when he tried to hurry, the best he could do was shuffle, and he felt the chill edge of fear.

He reached the entrance to the room and stopped, shocked into immobility. His hands went out and grasped the door jamb on either side of him.

There was no one in the room. And not only that — the room itself was different. It was not simply the companions who were gone. Gone, as well, were the rich furnishings of the room, gone the comfort and the pride.

There were no rugs upon the floor, no hangings at the windows, no paintings on the wall. The fireplace was a naked thing of rough and jagged stone. The furniture — the little there was — was primitive, barely knocked together. A small trestle table stood before the fireplace, with a three-legged stool pulled up to a place that was set for one.

Winston-Kirby tried to call. The first time, the words gurgled in his throat and he could not get



them out. He tried again and made it: "Job! Job, where are you?"

Job came running from somewhere in the house. "What's the trouble, sir?"

"Where are the others? Where have they gone? They should be waiting for me."

Job shook his head, just slightly, a quick move right and left. "Mister Kirby, sir, they were never here."

"Never here! But they were here when I left this morning. They knew I'd be coming back."

"You fail to understand, sir. There were never any others. There were just you and I and the other robots. And the embryos, of course."

WINSTON-KIRBY let go of the door and walked a few feet forward.

"Job," he said, "you're joking." But he knew something was wrong — robots never joke.

"We let you keep them as long as we could," said Job. "We hated to have to take them from you, sir. But we needed the equipment for the incubators."

"But this room! The rugs, the furniture, the —"

"That was all part of it, sir. Part of the *dimensino*."

Winston-Kirby walked slowly across the room, used one foot to hook the three-legged stool out

from the table. He sat down heavily.

"The *dimensino*?" he asked.

"Surely you remember."

He frowned to indicate he didn't. But it was coming back to him, some of it, slowly and reluctantly, emerging vaguely after all the years of forgetfulness.

He fought against the remembering and the knowledge. He tried to push it back into that dark corner of his mind from which it came. It was sacrilege and treason — it was madness.

"The human embryos," Job told him, "came through very well. Of the thousand of them, all but three are viable."

Winston-Kirby shook his head, as if to clear away the mist that befogged his brain.

"We have the incubators all set up in the outbuildings, sir," said Job. "We waited as long as we could before we took the *dimensino* equipment. We let you have it until the very last. It might have been easier, sir, if we could have done it gradually, but there is no provision for that. You either have *dimensino* or you haven't got it."

"Of course," said Winston-Kirby, mumbling just a little. "It was considerate of you. I thank you very much."

He stood up unsteadily and rubbed his hand across his eyes.

"It's not possible," he said. "It

simply can't be possible. I lived for a hundred years with them. They were as real as I am. They were flesh and blood, I tell you. They were . . ."

The room still was bare and empty, a mocking emptiness, an alien mockery.

"It is possible," said Job gently. "It is just the way it should be. Everything has gone according to the book. You are here, still sane, thanks to the dimensino. The embryos came through better than expected. The equipment is intact. In eight months or so, the children will be coming from the incubators. By that time, we will have gardens and a crop on the way. The livestock embryos will also have emerged and the colony will be largely self-sustaining."

Winston-Kirby strode to the table, picked up the plate that was laid at the single place. It was lightweight plastic.

"Tell me," he said. "Have we any china? Have we any glassware or silver?"

JOB looked as near to startled as a robot ever could. "Of course not, sir. We had no room for more than just the bare essentials this trip. The china and the silver and all the rest of it will have to wait until much later."

"And I have been eating ship rations?"

"Naturally," said Job. "There

was so little room and so much we had to take . . ."

Winston-Kirby stood with the plate in his hand, tapping it gently on the table, remembering those other dinners—aboard the ship and since the ship had landed—the steaming soup in its satiny tureen, the pink and juicy prime ribs, the huge potatoes baked to a mealy turn, the crisp green lettuce, the shine of polished silver, the soft sheen of good china, the—

"Job," he said.

"Sir?"

"It was all delusion, then?"

"I am afraid it was. I am sorry, sir."

"And you robots?"

"All of us are fine, sir. It was different with us. We can face reality."

"And humans can't?"

"Sometimes it is better if they can be protected from it."

"But not now?"

"Not any more," said Job. "It must be faced now, sir."

Winston-Kirby laid the plate down on the table and turned back to the robot. "I think I'll go up to my room and change to other clothes. I presume dinner will be ready soon. Ship rations, doubtless?"

"A special treat tonight," Job told him. "Hezekiah found some lichens and I've made a pot of soup."

"Splendid!" Winston-Kirby said, trying not to gag.

He climbed the stairs to the door at the head of the stairs.

As he was about to go into the room, another robot came tramping down the hall.

"Good evening, sir," it said.

"And who are you?"

"I'm Solomon, said the robot. "I'm fixing up the nurseries."

"Soundproofing them, I hope."

"Oh, nothing like that. We haven't the material or time."

"Well, carry on," said Winston-Kirby, and went into the room.

It was not his room at all. It was small and plain. There was a bunk instead of the great four-poster he had been sleeping in and there were no rugs, no full-length mirror, no easy chairs.

Delusion, he had said, not really believing it.

But here there was no delusion.

THE room was cold with a dread reality—a reality, he knew, that had been long delayed. In the loneliness of this tiny room, he came face to face with it and felt the sick sense of loss. It was a reckoning that had been extended into the future as far as it might be—and extended not alone as a matter of mercy, of mere consideration, but because of a cold, hard necessity, a practical concession to human vulnerability.

For no man, no matter how well adjusted, no matter if immortal, could survive intact, in mind and body, a trip such as he had made. To survive a century under space conditions, there must be delusion and companionship to provide security and purpose from day to day. And that companionship must be more than human. For mere human companionship, however ideal, would give rise to countless irritations, would breed deadly cabin fever.

Dimensino companionship was the answer, then, providing an illusion of companionship flexible to every mood and need of the human subject. Providing, as well, a background to that companionship—a wish-fulfillment way of life that nailed down security such as humans under normal circumstances never could have known.

He sat down on the bunk and began to unlace his heavy walking shoes.

The practical human race, he thought—practical to the point of fooling itself to reach destination, practical to the point of fabricating the dimensino equipment to specifications which could be utilized, upon arrival, in the incubators.

But willing to gamble when there was a need to gamble. Ready to bet that a man could survive a century in space if he were sufficiently insulated against reality—

insulated by seeming flesh and blood which, in sober fact, existed only by the courtesy of the human mind assisted by intricate electronics.

For no ship before had ever gone so far on a colonizing mission. No man had ever existed for even half as long under the influence of dimensino.

But there were few planets where Man might plant a colony under natural conditions, without extensive and expensive installations and precautions. The nearer of these planets had been colonized and the survey had shown that this one which he finally had reached was especially attractive.

So Earth and Man had bet. Especially one man, Winston-Kirby told himself with pride, but the pride was bitter in his mouth. The odds, he recalled, had been five to three against him.

And yet, even in his bitterness, he recognized the significance of what he had done. It was another breakthrough, another triumph for the busy little brain that was hammering at the door of all eternity.

It meant that the Galaxy was open, that Earth could remain the center of an expanding empire, that dimensino and immortal could travel to the very edge of space, that the seed of Man would be scattered wide and far, traveling as frozen embryos through the

cold, black distances which hurt the mind to think of.

HE WENT to the small chest of drawers and found a change of clothing, laid it on the bunk and began to take off his hiking outfit.

Everything was going according to the book, Job had said.

The house was bigger than he had wanted it, but the robots had been right — a big building would be needed to house a thousand babies. The incubators were set up and the nurseries were being readied and another far Earth colony was getting under way.

And colonies were important, he remembered, reaching back into that day, a hundred years before, when he and many others had laid their plans — including the plan whereby he could delude himself and thus preserve his sanity. For with more and more of the immortal mutations occurring, the day was not too distant when the human race would require all the room that it could grab.

And it was the mutant immortals who were the key persons in the colonizing programs — going out as founding fathers to supervise the beginning of each colony, staying on as long as needed, to act as a sort of elder statesman until that day when the colony could stand on its own feet.

There would be busy years

ahead, he knew, serving as father, proctor, judge, sage and administrator, a sort of glorified Old Man of a brand-new tribe.

He pulled on his trousers, scuffed his feet into his shoes, rose to tuck in his shirt tail. And he turned, by force of habit, to the full-length mirror.

And the glass was there!

He stood astounded, gaping foolishly at the image of himself. And behind him, in the glass, he saw the great four-poster and the easy chairs.

He swung around and the bed and chairs were gone. There were just the bunk and the chest of drawers in the small, mean room.

Slowly he sat down on the edge of the bunk, clasping his hands so they wouldn't shake.

It wasn't true! It couldn't be! The dimensino was gone.

And yet it was with him still, lurking in his brain, just around the corner if he would only try.

He tried and it was easy. The room changed as he remembered it—with the full-length mirror and the massive bed upon which he sat, the thick rugs, the gleaming liquor cabinet and the tasteful drapes.

He tried to make it go away, barely remembering back in some deep, black closet of his mind that he must make it go.

But it wouldn't go away.

He tried and tried again, and it

still was there, and he felt the will to make it go slipping from his consciousness.

"No!" he cried in terror, and the terror did it.

He sat in the small, bare room.

He found that he was breathing hard, as if he'd climbed a high, steep hill. His hands were fists and his teeth were clenched and he felt the sweat trickling down his ribs.

IT WOULD be easy, he thought, so easy and so pleasant to slip back to the old security, to the warm, deep friendship, to the lack of pressing purpose.

But he must not do it, for here was a job to do. Distasteful as it seemed now, as cold, as barren, it still was something he must do. For it was more than just one more colony. It was the breakthrough, the sure and certain knowledge, the proved knowledge, that Man no longer was chained by time or distance.

And yet there was this danger to be recognized; it was not something on which one might shut one's mind. It must be reported in every clinical detail so that, back on Earth, it might be studied and the inherent menace somehow remedied or removed.

Side effect, he wondered, or simply a matter of learning? For the dimensino was no more than an aid to the human mind—an

aid to a very curious end, the production of controlled hallucinations operating on the wish-fulfillment level.

After a hundred years, perhaps, the human mind had learned the technique well, so well that there was no longer need of the *dimensino*.

It was something he should have realized, he insisted to himself. He had gone on long walks and, during all those hours alone, the delusion had not faded. It had taken the sudden shock of silence and emptiness, where he had expected laughter and warm greeting, to penetrate the haze of delusion in which he'd walked for years. And even now it lurked, a conditioned state of mind, to ambush him at every hidden thicket.

How long would it be before the ability would start to wear away? What might be done to wipe it out entirely? How does one unlearn a thing he's spent a century in learning? Exactly how dangerous was it—was there necessity of a conscious thought, an absolute command or could a man slip into it simply as an involuntary retreat from drear reality?

He must warn the robots. He must talk it over with them. Some sort of emergency measure must be set up to protect him against the wish or urge, some manner of drastic action be devised to rescue

him, should he slip back into the old delusion.

Although, he thought, it would be so fine to walk out of the room and down the stairs and find the others waiting for him, with the drinks all ready and the talk well started . . .

"Cut it out!" he screamed.

Wipe it from his mind—that was what he must do. He must not even think of it. He must work so hard that he would have no time to think, become so tired from work that he'd fall into bed and go to sleep at once and have no chance to dream.

HE RAN through his mind all that must be done—the watching of the incubators, preparing the ground for gardens and for crops, servicing the atomic generators, getting in timbers against the need of building, exploring and mapping and surveying the adjacent territory, overhauling the ship for the one-robot return flight to Earth.

He filled his mind with it. He tagged items for further thought and action. He planned the days and months and years ahead. And at last he was satisfied.

He had it under control.

He tied his shoes and finished buttoning his shirt. Then, with a resolute tread, he opened the door and walked out on the landing.

A hum of talk floating up the

stairway stopped him in his tracks.

Fear washed over him. Then the fear evaporated. Gladness burst within him and he took a quick step forward.

At the top of the stairs, he halted and reached out a hand to grasp the banister.

Alarm bells were ringing in his brain and the gladness fell away. There was nothing left but sorrow, a terrible, awful grieving.

He could see one corner of the room below and he could see that it was carpeted. He could see the drapes and paintings and one ornate golden chair.

With a moan, he turned and fled to his room. He slammed the door and stood with his back against it.

The room was the way it should be, bare and plain and cold.

Thank God, he thought. Thank God!

A shout came up the stairway. "Winston, what's wrong with you? Winston, hurry up!"

And another voice: "Winston, we're celebrating. We have a suckling pig."

And still another voice: "With an apple in its mouth."

He didn't answer.

They'll go away, he thought. They have to go away.

And even as he thought it, half of him — more than half — longed in sudden agony to open up the door and go down the stairs and know once again the old security and the ancient friendship.

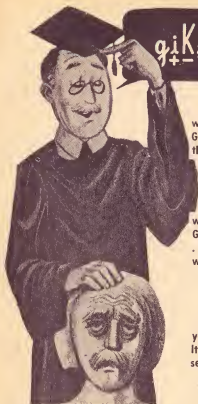
He found that he had both his hands behind his back and that they were clutching the doorknob as if they were frozen there.

He heard steps on the stairway, the sound of many happy, friendly voices, coming up to get him.

—CLIFFORD D. SIMAK

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A touch of E flat

By JOE GIBSON

Illustrated by DICK FRANCIS



MOST people can find something wrong with the world, and some make a practice of it, but few people ever get the chance to do something about it—and those

few usually go down in history with a resounding crash.

Well, it's been rather noisy around here.

From the very beginning, it had been my intention to write

Warning: never let anyone point any weapon at you; even something as harmless-looking as a water pistol—it may be a Cooling gun!



this account. But I certainly hadn't intended to write it while residing under police surveillance in the Recuperating Ward of St. Luke's Memorial Hospital. Nor did I expect the interest and en-

couragement of the police officer who put me here. Nonetheless, Sgt. Nicolas Falasca of the Ohio State Police has been most helpful both in the many long discussions we have had and in procur-

ing the notes and data from my laboratory for the preparation of this manuscript.

But I'm afraid there shall be a considerable lot of me in this manuscript—which, I hastily assert, is not its purpose at all. My apologies for that. Fact is, there's a considerable lot of me, as anyone can see. The term I rather prefer using is roly-poly.

For the record, however, I am duly Certified-at-Birth as one Albert Jamieson Cooling, to which has been added, by my own modest efforts, a few odd alphabetic symbols such as M.S. and Ph.D. I am currently holding down a professorship at a small, privately endowed Tech college, have some mentionable background in both nuclear physics and biochemistry, possess a choice collection of rather good jazz records, have a particular fondness for barbecued spareribs—and, of late, have become an inventor.

If I've left something out, such as horn-rimmed glasses, then, by the point of my little black beard, it must be the wardrobe of 36 sport jackets. Wives? Well, I've been tempted, but a professor's salary can't support alimony.

MY DISCOVERY of the Cooling Effect itself came quite by accident. But twice now, that accident has almost killed me. It

may be argued that this is no more than I should have expected, however, since the invention which "followed naturally" can only be called one thing.

I have invented a new weapon.

That's right—a Cooling gun.

But let it be said that because I was once a war scientist, my inventiveness must therefore tend toward weapons and I should be strongly tempted to reach for the nearest one available. The term war scientist has been used so much, and has grown so commonplace, that it has become universally accepted as the label for anyone who spent as little as six weeks in the old AEC. I was in it for six years, and I voluntarily walked out.

The official policies and inter-agency politics of that era seem of little consequence now, when we have three permanent space satellites circling the Earth and one of them is Russian. We're no longer in a weapons race; both sides have reached the Ultimate Weapon in that contest. Nobody's hiding or betraying classified secrets any more. There's all that silicon-rich basalt waiting to be cheaply processed out on the Moon, if we can only get there...

Back in '69, the official news releases were still boasting how much bigger was each new toy we rolled out of the workshop, how

much more terrible destruction it would wreak than the last one. That was hogwash dished out by our PR boys (and, on the other side, by the Reds' Propaganda Ministry) simply because people didn't know any better. Actually, our toys that made the biggest bang were the worst flops as weapons.

You don't conquer an enemy by exterminating him. A hundred million corpses are no problem — just use bulldozers and they're out of the way. But a hundred million living, breathing, freezing, starving, filthy and ragged human beings can raise one hell of an uproar. And they usually do. Some of us felt that we wouldn't need to knock off even a third of Russia's major cities. Much less, in fact.

Dr. Charles Whitney made the mistake of saying so. And they canned him. The scuttlebutt was that Doc's conscience backfired. I know better; I saw the explosion. It was his patience, not his conscience.

Anyway, I turned in my resignation two weeks later. I walked out, kept my mouth shut and settled down to a small college professorship. I mention these events now simply because I believe it was there that the development of the Cooling gun actually started.

I HAD begun to see what devastating weapons could never achieve. They *had* deterred warfare, at least up to that August of 1969, by their threat of utter destruction — and perhaps Whitney deserved to get canned — but they offered no guarantee for the future. And they couldn't liberate a conquered nation or protect people from a dictator's secret police.

It was time we had something better. (We did, of course, but only a small part of the AEC was in on the development of atomic rockets.) Until we did, I could sense that we were simply going through the motions.

But it all began to go places fast with that cold research we were dabbling in, last semester. In fact, it was my fault that General Atomics tossed that little problem into our Cold Lab here at Webster Tech — my own past service in the AEC, my rather unusual background combining nuclear physics and biochemistry, and the post-grad crew I've managed to accumulate under my professorial wing.

The whole deal was shoveled obligingly into my Christmas stocking and the rest of the faculty obligingly left me to play with it — providing I continued to conduct my regular classes, of course.

Perhaps it's just as well I kept

my hand in, though, because that line of research got rapidly nowhere. We found that materials which have their temperatures reduced to near-absolute zero are just plain cold. Bring them into room temperature and strange things happen sometimes that isn't just them trying to warm up. It isn't friction-loss and it isn't radiation damage and it isn't entropy.

It shows.

There's a band of radiant energy somewhere between ultrasonics and radiant heat that hits fast and goes deep, and comes out just as fast, and it gets triggered off by whatever this is that happens with near-absolute zero objects subjected to room temperature. But the whole thing is so negligible that for most practical purposes it can be ignored.

Finding *that* out cost General Atomics thirty thousand dollars, but our kids in the Cold Lab had a ball rigging the Mad Scientist's super-disintegrator gizmo that reproduced the phenomenon.

Then, that night—it's nearly four months ago now—I was alone in the lab, just switched off the lights, about to close up and go home. And I stumbled over the corner of the thing. Scrambling up, somehow I put my foot into it. And reaching out to grasp its frame, to steady myself, my hand

hit the switch. It went on and I went out.

It was still on—I thought—when I regained consciousness, spraddled out on the concrete floor. I pulled the switch open and jerked the cord out of the wall socket.

WHEN I got home, there wasn't a bruise or a bump on my noggin. Nor the faintest sign of a burn anywhere on my foot or leg or even on the sole of my shoe.

That was a Tuesday night.

The next day, the lab remained closed. But that night, I went in, switched the lights on and studied the machine. It showed absolutely no sign of damage, no burned insulation, nothing. I stuck my hand into it and closed the switch. It came on with its usual quiet hum. Nothing happened.

It was almost a week before I heard that the janitor was still wondering who'd blown all the campus fuses on Tuesday night. Then I remembered that I hadn't switched the lights back on when I regained consciousness.

I had been blinded when I switched them off, had stumbled over the machine, fallen, all the rest of it. But I'd come to with night vision, naturally. I saw well enough then by the moonlight streaming in the lab windows. All

the lights—the machine, too—could have been off, with the fuses blown, without my noticing it. I had assumed the machine was on because its switch was closed, had opened the switch and jerked out the cord plug.

What happened had therefore required a tremendous spurt of juice in the circuits, or else a heck of a lot less juice than we carry in our lab outlets. So I took home the prints on the rig and began making changes. Which led to more changes. Which resulted in some rather complicated mathematics to which we scientific chaps resort when the kind we teach in colleges just won't work out right. I got it: a very low power-input. And I got more.

The thing is a sort of invisible ray. It can only be emitted, or broadcast, as a narrow beam from the muzzle-coils of a very fancy-looking electronic rig. Low power is a must; more juice not only heats up the rig and smokes insulation, but it won't shoot the beam.

I tested it on the black tulips (Biochemical Research Project 187) which I got to close up by the clock, not by the Sun, last year (Project 187-A) and their blossoms closed each time the beam touched them. The purple mushrooms which fluff their tops in radioactivity showed no effects.

It works on a simple "A" battery. But there's a transistor hookup that behaves like no transistor. Its molecular structure vibrates, which it shouldn't, and emits a sharp, keening note in the vicinity of E flat. A rather bulky muffler would be required, I'm afraid, to get rid of that noise.

But the oddest thing, technically, is that invisible ray-beam. It hasn't any of the effects of electric shock. I'll not go into the electro-neurological aspects of that—nobody could understand it except, just possibly, a neurologist—but the simple fact is that this ray puts a victim to sleep instantly *and it doesn't do anything else!*

No blockages or convulsions of nerve ganglia, not even a temporary catharsis of "mild" shock! Apparently it gallops up the "white matter" of the nervous system quite harmlessly, then smacks the "gray matter"—the brain, the spinal column—a good wallop. Painlessly.

In short, the victim just flops over and snores up a half-hour or so, and then awakens as if from a short nap, though perhaps with some puzzlement. There is no injury whatsoever.

NATURALLY, I wanted to find out how the Cooling Effect worked and why—though I may

never learn *what* it is. Hypnosis? Artificially induced, instantaneous sleep? (Victims can be handled without awakening.) Of course, I was curious. I'd have gone through it step by step for my own satisfaction, even if somebody else had already done it before.

Nobody had — and it wasn't easy. During the rest of the term, even through final exams, I devoted every spare moment to the Cooling Effect. Even so, it took another two months' hot sweat — the summer vacation's practically gone now — to get those final diagrams onto my drawing board.

But once I did, there it was, at least its basic circuits and components. All I needed was to juggle them around, coax them into a slim, tubular case, put a carved butt on it containing the "A" battery and give it a push-button trigger. With that data, any good bench-hand in an electrical repair shop could have done the job. I fashioned it out of plastic and odds and ends in my basement laboratory.

A glance in the telephone Red Book gave me the number of a local breeding farm and a call soon brought a pair of fat, inquisitive guinea pigs in a small, wire-screened carrying cage. Beyond the patio wall, my house sides directly on open pasturage, and be-

yond that, lower in the valley, the alfalfa field begins. With a brisk pacing off of a base-line and some rough, splay-thumbed triangulation, I soon determined my new weapon's effectiveness from point-blank range to a thousand yards — on guinea pigs, that is.

At nine hundred yards, it still knocked them over for the count. At a thousand yards, it had no effect whatever, so far as I could determine through field glasses. The animals gave no sign that they even noticed it. That, plus the nature of the mechanism, indicates its application is definitely limited. Whether you make it small enough to fit a lady's purse or as big as an atomic cannon, its maximum effective range will still remain 900 yards. And not just on guinea pigs.

I already knew from my own experience what it does to a man at close range. Blowing the fuses on the whole campus had been the real danger there, however. Had it been the slightest bit different, even to the position of my foot in that big machine, I should certainly have been electrocuted that night.

That was the first time it almost killed me.

THE Cooling Effect is worthless as an anesthetic for surgery. While the sleeping guinea

pigs don't awaken when I pick them up out of their cage and handle them, even pulling their legs, they do struggle. They resist, like sleeping animals, not wanting to be disturbed. Still, I pinched them and bounced them and they invariably slept through an approximate half-hour. It's shock, and it isn't. It's sleep, and it isn't.

But I certainly knew it was a weapon. A new weapon. And man alive, *what* a weapon!

I turned the guinea pigs loose in the patio, let them scamper, then tumbled them both with a quick sweep of the beam.

ONE man in ambush could knock over a whole company of marching troops!

The guns could be mounted on tripods with a rotating mechanism that kept them sweeping the area constantly. Anyone who approached within 900 yards would go down—then wake up, climb back to their feet, and go down again every half-hour. Man or animal. The guns could be strung out to cover a whole sector, then wired to a single main switch—and one lone observer could stop an infantry advance.

But they wouldn't stop guided missiles or even mortar fire. Nor would they deflect through peep-holes on a tank or pillbox. There

isn't quite that much "scatter" from the beam reflecting off a hard surface. However, there is some—I fired through the wire-screen openings of the cage and had the beam glance directly off the back wall, often knocking the guinea pigs down without hitting them directly. It went through a handkerchief easily, even when folded thick. A thin glass tumbler, however, stopped it.

You could take cover from it almost anywhere—if you knew when you were going to be shot at. You could wear a light plastic armor—if the joints were sealed and you kept it hooked to about a fifty-pound air-condition unit. No problem at all if you ride a motor scooter.

It wouldn't stop an invading army, but it could certainly raise the devil with the occupation. Almost anyone could make the gun. Given the components of a pocket radio, a few pieces of copper wire, a few sticks of chewing gum and a penknife, I could whittle one out of wood or put it into a plastic toy water-pistol.

But what the Armed Forces *don't* want right now is a new secret weapon! They have their manned satellite now, keeping its vigil over the arsenals of Earth, their big atomic missiles ready to jump off against preset targets—but with the frightful unknown of

deep space chilling their backsides.

And, too, I can imagine trying to sell those Generals on something that won't even stop a tank.

I'm afraid I forgot to shut off the kitchen monitor that night. The servos dished out the dinner menu I'd dialed before noon, then whisked it away when it got cold. I noticed it when the waste processor's stuttering hum went on a bit longer than usual.

I REALIZED all too clearly what a predicament I was in.

The Armed Forces would undoubtedly suppress my invention. Their lives are nightmarish enough already—not knowing what they'll find out in space or how it will affect matters. What's more, they would suppress *me*! There are certain retroactive clauses in that contract I signed with the AEC which would do the job with complete legality. A nice little hideaway, then, with nothing for miles but security guards, radar traps, trip-wires and electric fences.

But that was the kindest fate I could expect. Quite a number of assorted big and small dictators might like my head blown off.

The most obvious alternative was to suppress the invention myself. To destroy all traces of my experiments and forget about it.

To convince myself the world wasn't ready for it.

It's quite possible I might have —if I hadn't kept forgetting to shut off things—and if not for an unsavory little group.

There is small chance that Big Jake Claggett and his three henchmen will ever be remembered for their unwitting contribution to science and the future of mankind. In fact, their contribution can be accepted as the merest coincidence—unless you discount Big Jake's liking for foreign sports cars. But that came later.

We always have had criminals and crime, and it just happened that Claggett's gang were the big news that day. It could as easily have been some other bunch of crooks.

Anyway, when nine P.M. rolled around, my wall TV burst into its customary serenade of sound and color, timed for just enough of the opening commercial to let me settle down to watch Mr. Winkle's news commentary. It was August 23rd, 1979. At two o'clock that afternoon, Big Jake Claggett and his gang robbed the Bellefontaine County Savings Bank and got away with \$23,000.

One of the gang clubbed the elderly bank guard senseless with the barrel of his revolver. The guard was hospitalized for a possible skull fracture. Witnesses

said Big Jake cursed the gunman who struck the guard, warning him to "get hold of himself!"

That was enough for me. The world had to be given my new weapon. (I'm even more convinced of it now, after discussing it with Sgt. Falasca. Practically every professional criminal in this country would give almost anything for the Cooling gun. Then they could commit armed robbery with no risk of earning a murder rap!) I could see that both criminals and police officers would welcome it and for one simple reason.

It doesn't kill, maim or injure. Even if it should cause a tremendous increase in robberies and similar crimes, its victims wouldn't be dead. Better a hundred robberies than one man's death.

Besides, I had a notion that I could discourage its criminal use.

FIRST I had to prevent its suppression. Solve that problem and there wouldn't be any reason I couldn't manufacture the pistols, advertise them, and sell them exactly as any firearms company can sell .22 rifles. Except that I should probably do better to arrange for their manufacture by some established firm.

That was when I began planning to write this. There is just one condition under which no se-

cret can be suppressed — *when it ceases to be a secret!*

It took preparation. The roughed-out diagrams and scribbled notes a man uses in research are hardly suitable for publication. Technical specifications had to be phrased in clear, understandable terms. The complete data took nearly two weeks to reach final draft. Also, it seemed best to establish the importance, and at least imply the probable consequences, of this publication.

And then, obviously, I had to find a publisher.

That one had me stumped.

Furthermore, I suspect it might still have me stumped if I did not now have the full support of the Governor and the State Police of Ohio. *These police officers want Cooling guns!* But even back then, while I was still the only man on Earth who knew about it, I managed to formulate a solution of sorts.

Any publisher would be scared of the thing while only he and I and the printers knew about it. He'd be risking a Federal injunction, at the very least, even to consider publishing it.

But if it were no longer a secret and simply not yet *common knowledge*, most publishers would grab it. If, for example, some manufacturing firm had already considered it and was planning

to put Cooling guns into production. . . .

Dr. Charles Whitney is currently the president and chief stockholder of the Cleveland Atomic Equipment Company, which designs and manufactures special tools and equipment for nuclear power companies, radiation labs and universities throughout the Midwest. He started the business after his dismissal from the AEC and built it up gradually over the ensuing ten years. We have some of his tools at Webster Tech.

Then, too, Whitney and I had maintained a cursory, but friendly contact through the years, so naturally I thought of him first. He had the production layout for the job; what's more, he had the guts to go through with it. All I had to do was sell him on it.

Unfortunately, by then I was scared silly. I was the furtive, sneaky little man whose invention would change the world. I contacted Dr. Whitney with a simple televisor call — but instead of suggesting a perfectly normal appointment at his office, I had to swear him to secrecy and arrange a clandestine meeting in the country! I wonder he didn't consult an almanac to see if there wasn't a full moon that night.

In fact, I wonder that he came at all. It was pouring rain.

AT LEAST six hours are still required to reach Indian Lake in dry weather, even allowing the Federal Freeway's 125 mph speed limit. Once through the Columbus Turnoff, you have to double back westward and northward through a hilly, rural country with twisting county roads. You must have excellent driving ability to average more than 30 mph — and it won't be much more — over that maze of roads. When they're wet, you need driving ability just to stay on them.

I'd worked late the night before, arranging my material for this meeting, and didn't arise until noon. One glance at the sky's heavy overcast told me what to expect. The weather reports confirmed it.

The world proceeded about its own business, of course, thoroughly indifferent to a worried man eating his belated breakfast. I was so completely *alone!* If I felt any sense of foreboding, stuffing articles into my pockets, picking up the guinea pigs' case and going out to the car, I couldn't distinguish it from my feeling of gloom. Perhaps I did, since the world's affairs caught up with me quite forcibly that night.

I met the rain before I was halfway up the Freeway and had

to cut speed clear down to 85.

The old hotel on Indian Lake was my natural choice for a rendezvous, since it was a gutted ruin in abandoned backwoods — though “abandoned” isn’t exactly true. Local residents still fish the lake and there are a few homes around the shore area.

Strictly speaking, the region has simply changed with the times. Today, you can’t get past the toll-gate onto a Federal Freeway unless you have a Federal Driver’s License and your Vehicle Inspection sticker is up to date — which changed more things, I think, than nuclear power and industrial automation.

WHEN people suddenly couldn’t drive across the country in any junkheap with a nut at the wheel, it became a mark of distinction just to *live* in the country. That’s what made more rural jobs — the small community shopping centers springing up, products having to be shipped out to them, the growth of rural power and water systems — when work in the cities got scarce, with automation taking over the factories.

But it hit the small resort areas especially hard. More people are vacationing in the cities now than at the seashore or mountains!

I hadn’t been out to the lake in

years, but I had less trouble finding my way this time than ever before. The influx of new home-builders has considerably improved the road signs around there, both in number and accuracy, and that’s all you need in a Porsche Apache. My little blue speedster takes those narrow, rain-slicked county roads like a Skid Row bum making the saloon circuit with a brand new ten-dollar bill. The only real problem is getting around those armored Detroit mastodons that can’t decide which end is the front.

Anyway, driving kept me too busy to think much of anything else. But I made good time — better than I expected — and it wasn’t long after dark when my headlights cut through the sheeting rain to pick out the fire-blackened ruin of the hotel.

I jounced the little Porsche around the deep-rutted drive and parked next to the empty frame building that had once been the restaurant and bar.

I had plenty of time to think, for Dr. Whitney didn’t arrive until two hours later.

It was sometime during those two hours that the Claggett gang smashed their way through a police roadblock just outside Lima, their guns blasting reply to the machine-gun bullets peppering

their big sedan. Two policemen were seriously wounded; one died on the way to the hospital.

Shortly afterward, the bullet-riddled sedan was found by the roadside, but only one of the gang was in it. He was dead.

And some time later, a call aroused Sgt. Falasca from a sound sleep. He didn't even take time to don his State Police uniform, but merely pulled a trenchcoat on over his pajamas, got his revolver out of the bureau drawer, and kissed his wife on the way out the front door. He had three other State Troopers to pick up, off-duty as he was, before proceeding to the assembly point at Lima.

The Claggett gang had split up, some of them probably wounded, each of them armed and more dangerous than ever. They were wanted for murder now.

DR. WHITNEY made the trip by helicopter, of course — the head of a scientific instrument company must keep up appearances. He'd waited as long as he could, hoping the weather might clear, then had taken off on instruments and reached the lake by ADF gridmap. He settled to the lake surface and crept in to shore, his landing lights probing the thick curtains of rain.

I heard the hollow roar of his turbine, rather than the throb of

his rotor blades, and hurried around the slanting wing of the old hotel to meet him. The lakefront presented a macabre view that wrenched at my memory. The desolate, cracked-stucco walls with the black holes of their windows rising from mounds of rubble beside me, a weed-grown lawn and a straggle of trees half-masking the lake — stark-looking trees now, in the 'copter's landing lights — and a small boat-dock leaning half into the black water.

Once, as a rather obnoxious young high-school student, I had seen this lakefront on just such a night. A steady rain fell, lightning flickered, and thunder blasted its anger . . . and, for a moment, I saw it as it had been, with that grand old British pioneer of space flight, Arthur C. Clarke, standing out there in the pelting rain with his camera, taking pictures of the lightning!

Dr. Whitney brought his sleek craft over the treetops and settled neatly into the small space that remained of the lawn, his rotor tips almost nicking the crumbled walls of the hotel. It was a plexinosed, three-place executive ship — a Bell, I think. A lot of people prefer flying. They must fly specific air routes and airfield traffic patterns; and with airfields so crowded, they have trouble finding a place to park. It's not for me.

But Dr. Whitney had heard the newscasts on the way out. I don't recall what was said at our meeting. It was rather uncomfortable, under the circumstances — the more so for me, I think, as those circumstances were my own making. But when we'd rounded the hotel and entered the old restaurant-bar, I recall Whitney's jocular approval.

"Well, we're cozy enough here," he said. "So long as the Claggett gang doesn't drop in on us!"

That was how I heard of the night's happenings. When he saw that his remark puzzled me, he related the news while I was setting things up for our conference. We were in the back room, which had once been the bar — the front section, formerly the restaurant, had had windows all around, which now formed an unbroken gap with a chill wind whistling through it. The place was stripped bare of its former fixtures, but some unsung fisherman had provided the old barroom with a rickety table and several pressed-board boxes to sit on. I had a Coleman radiant heat lantern which I swung from a ceiling wire hook, a plastic sheet which I threw across the table, and a couple of patio chair cushions for the boxes.

It took some shifting about to get everything out of the way of several roof leaks, and I had to

choose a sturdy box for myself, first testing a few.

I CAN well imagine the thoughts and emotions struggling through Dr. Whitney's mind then, but he showed none of them. It was I, rather, with my clumsy movements, the pauses to polish my glasses, the lump I kept trying to swallow, who took so long to face up to it.

But finally we were ready. I took out my notebook and opened it upon the table before me. Whitney's frosty eyebrows raised. Then he quietly reached inside his own topcoat, produced his notebook and pen, and laid the notebook open before him. It was a gesture of an almost-forgotten past, but a habit neither of us had ever abandoned. Something about it — the reminder of countless AEC conferences we had both attended — had a steadying effect on me.

I placed my pistol in the center of the table. The guinea pigs' cage was on the floor before us. I told what I had to tell.

Then I went to the cage, removed one of the animals and tucked it into my pocket. Returning to the table, I picked up the pistol and fired at the cage. The shrill E flat note pierced the rushing sound of the rain.

Whitney rose and went to the cage. Gently removing the little



creature, he felt it a moment, then nodded.

"Asleep," he said, and replaced it in the cage.

Looking over my notes, I see that considerable space would be required to cover the entire interrogation which followed. Also, I see that I failed to note down the almost gradual change in my old friend's demeanor — from his calm, quiet manner at first to the keen-eyed excitement of his flushed features, his rapid-fire questions at the end.

I shall, instead, give some examples of that discussion.

"The guinea pigs sleep for only

a half-hour? Always a half-hour?"

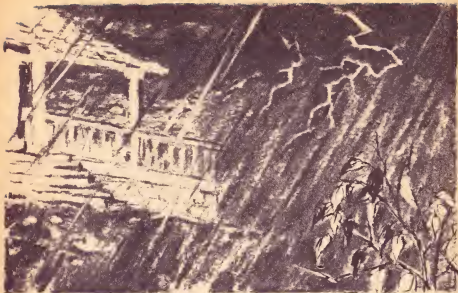
"Yes. It never varies much. A minute or so each way."

"If you — uh — shoot one, then shoot it again, does that prolong its sleep any?"

"Not at all! Still only a half-hour, no matter how many times you shoot them while they sleep."

"Ummm. That could indicate sleep is the brain's defense mechanism against the effects of your ray. A successful defense, it would seem. They show *no* after-effects of this?"

"None whatever. They've begun to associate it with the pistol, though. Each time I point the pis-



tol at them, they get mad —”

“You mean angry? They aren’t afraid of it?”

“Certainly not afraid! One in my pocket here tries burrowing into corners, making furious grunting sounds. The other one usually just stands and glares at me.”

“How about when they wake up?”

“Well, generally, their first reaction is to keep a sharp eye out for me — and the pistol.”

“Wary, eh? Damned inconvenient, I suppose, getting knocked asleep all the time. But it certainly doesn’t seem to hurt them. What about mental disturbance?”

“No obvious aberrations. But I don’t know —”

“Yes, they’re only guinea pigs. Hardly be satisfactory to the American Medical Association, among others. Take years of research to determine its absolute safety —”

“But it should be released to the public now!”

“Why?”

“Because its harmful effects, if any, are very likely to be insignificant — or we’d have no doubts about their existence.”

“That assumption *could* be dangerous.”

“Yes. But there’s something

else, too. This new weapon will replace firearms — which certainly do inflict injury, even death."

"Ah, society's application of it —" And Dr. Whitney took several minutes to digest that aspect.

I outlined my plans to him.

HE WAS incredulous at first, then frankly aghast. "You expect me to *mass-produce* that thing?"

I said I hoped he would.

He then commenced raking me over the coals in a most fitting and proper manner. Didn't I realize what I had created? My visions of it freeing peoples from police-state enslavement were all fine and good, and it might conceivably have such result; but what I had here was nothing more than *the most fiendish instrument ever inflicted upon human society!*

What did I think it might do in the hands of muggers, sex offenders, pickpockets, burglars or worse? Why, our whole civilized culture would be thrown into chaos! No person would dare ever be alone, for fear of ambush. No one could sleep without someone else standing watch! No man could defend his own possessions, no woman could keep her chastity, unless people were around them, watching them every *moment of their lives!*

Goods could no longer be transported without heavy guard. The

wealthy — who could afford it — would have to live in massive, well-guarded fortresses. The rest of us would be like the feudal serf, with nothing worth stealing and quite accustomed to having his daughters raped. *We'd be thrown back into the Dark Ages!*

I nodded agreement to everything he said.

Then I took the guinea pig from my pocket, held it squirming, and fastened a little collar about its neck. I unwound a wire from the plastic disc on the collar so Dr. Whitney could see it. He instantly recognized the tiny node on the wire as a miniature microphone.

"Remember how you determined that the other pig was asleep?" I asked. I taped the tiny node to the artery on the pig's neck, carried it over to the cage, and placed it inside. "I call this my 'Hey, Rube!'" I explained, grinning. "But imagine it as a little wrist radio transmitter, worn by everyone who requests them, tuned to the police broadcast frequency. Radio DF could pinpoint the location in seconds."

Going back to the table, I picked up the pistol. "This one's just for demonstration," I added, and fired at the cage.

As the guinea pig slumped beside its companion, the disc on its collar emitted a harsh, buzzing noise.

Whitney chuckled. "Slowed heartbeat, eh? Simple as that!"

"And better than any burglar alarm," I pointed out. "This one needn't sit still while some crook disconnects it!"

HE POINTED out, of course, that this might destroy its usefulness to people in a police-state. The dictator's police and troops could wear "Hey, Rube!" radios, too. I replied that all the people's underground fighters would need is a Cooling pistol and a saw-edged meat knife. One man could knock over a whole platoon and cut their heel-tendons in minutes. "The American Indians used to collect scalps in less time!" I said. "But a wounded man's more trouble to the enemy than a dead one. I think the heel-tendon would be easiest."

Perhaps it was a bit out of character for me. Whitney looked at me for a long moment, and blinked. Both eyes, tight.

But still he didn't think much of my plans.

His subsequent suggestions were far more rational, however, than the ones I had evolved through fear.

First, we didn't really know the Armed Forces would suppress this gun. They were completely involved in their problems of space flight and military satellites; there probably wasn't any-

one left in Washington who was even looking for secret weapons now. And we just might get this gun through while they weren't looking.

He suggested, therefore, that I attempt to patent my invention. But that we should take adequate safeguards: I must handle all patent correspondence through his office. Then, if the Armed Forces clamped down, they'd come there first — and he could tip me off in time to escape. I'd have to flee the country. But at least I'd be free and we could adopt other measures for bringing out the gun.

It would be pointless now to disclose what other plans and arrangements we made. It's enough to say I agreed. The discussion then turned to further speculation of what the future might be with the Cooling gun.

Whitney was not at all convinced it would be good, but, rather, that neither we nor any group of men had the right to decide what humanity should or should not do.

He had strong doubts that it would mean the end of dictatorship. "Dictators dream world conquest, and dreams like that breed war," he said. "But they aren't the only ones to blame. You'll find people who *like* dictatorships!"

But the truth was that most of humanity didn't want to get in-



volved, never realizing that that involved them more than anything else could.

It was at approximately this time, so far as I can determine, that Big Jake Claggett and one of his henchmen walked up to a service station where a Porsche speedster was getting gas. They clubbed the station attendant unconscious, hauled the driver out of the little sports car and took off in it.

Dr. Whitney left me with a problem. What could be done to keep people alert? It is this one thing that will determine the Cooling gun's effect on the world

— whether as an instrument of crime or protection for the weak, the innocent.

Where people are complacent, it will be a boon to thieves and revolutionaries.

Where people are alert —

But what could keep us alert?

DRIVING back, I was preoccupied, hardly conscious of the little car's deft progress over the slick roads. It was almost with a feeling of detached interest that I saw the black skid-marks at the bottom of the hill — then, with chill shock, the dark bulk of the sedan on its side in the ditch.



I was slowing when a flashlight beam raked outward from the car, showing crumpled metal and broken headlights. One figure, perhaps two, were standing behind it. Another one, a man in a trenchcoat, mud-splattered almost to his hips, was walking onto the road in front of me, flagging me down.

"Get out of that car!"

There were exasperation and rage in his voice, an expression of utter fury on his face. He stood just at the edge of my headlights' glare, not directly in it, with his hands thrust deep in his pockets.

There was that. There was the

speed of the sedan, as evidenced by its skid-marks. My mind leaped instantly to one nerve-shattering conclusion —

And I felt absolutely calm. I can't explain that. It may have been that the night's events had already drained me of tense emotion.

They're armed, I thought, but so am I! And I have a weapon that can get them all with one sweep —

This, while I opened the door and climbed out. While I thrust my hand into my own pocket.

I whipped out the little pistol. One instant, he was standing

still, hands thrust in the wet trenchcoat. The next, a heavy revolver exploded at his hip. A sledgehammer caught me in the right side, knocked me reeling.

It occurred to me then, lying there on the road, cold rain pelt-ing my face, a warm wetness spreading along my side. I had met the one pitfall we shall never escape in a pistol-packing society: the man who's faster with a gun than you are!

Bending over me, Sgt. Nicolas Falasca picked up the little plastic Cooling gun and straightened up, peering at it, scowling. "What the hell!" he muttered.

I was rather inclined to agree.

NATURALLY, this had to be told. The State of Ohio wants Cooling guns for its police officers; after this, other States will undoubtedly follow suit. The Armed Forces don't want to suppress it. And Dr. Whitney will start production in just another week.

They've been very decent about paying my hospital bills and seeing that nothing else happens to me.

Even though Sgt. Falasca was saddled with the latter responsibility, I must repeat that he's

treated me very well. The future will depend a lot on men like him.

As for the rest—I've been assured that the guinea pigs were honorably retired to the breeding farm; Nurse wouldn't let me keep them here. Everyone knows of the violent end of the Claggett gang.

I want to state vigorously at this point that, despite widespread public belief, neither I nor the Cooling gun had anything whatsoever to do with it. I never at any time even saw Claggett or any member of his gang. Their unwitting contribution was the alerting of Sgt. Falasca and the rest of the police, and, as I mentioned at the beginning of this account, Claggett's stealing a Porsche like mine because he was fond of sports cars.

That's the whole of the story, except for one additional item:

This is scheduled to appear at the same time as the plans and specifications for the Cooling gun. You'll find them given as premiums with safety razors, breakfast cereals, cigarettes and other articles. I wish to thank the manufacturers for their kind cooperation.

—JOE GIBSON

X-1=The choice from *Galaxy*, adapted by the tops at N.B.C.

Each Wednesday nite on Radio!

double dome

By RAYMOND E. BANKS

*Planning to have an adaptokid?
Check into it thoroughly first
—no home is complete with one!*

Illustrated by FINLAY

ONE morning, I walked into the factory and he was there, our newest employee — James Warwick, the two-brained, four-armed adaptoman.

There was an ominous silence in the factory control room. Usually there's plenty of noise—banter, horseplay, gossip, sometimes even a little work—but today the boys were silent, heads hunched defiantly over control panels. Miss Berkland, the office sweet-

heart, was the only one who seemed undisturbed as she fed her bank of automatic dictation-to-typing machines. Even Dr. Kirby, the plant physician, was glaring at the adaptoman through the glass wall of his partitioned office.

The atmosphere bothered me. That's my job.

You have to understand that the people who run an automated factory are a small, select group, more like a family than a busi-

ness. Even the yardmen are much closer than in the older factories. There are only fifteen of us upstairs in the office and a mere eighty-two in the yard. With this group of less than a hundred workers, we turn out an amazing number of assemblies that go into spaceships. SRA, Space Rocket Assembly. That's our name, and we're the principal industry of this small town of Worthington, California.

I studied the adaptoman and his setup. He had an odd desk, what they call an adaptodesk, with an additional working surface built out and around the conventional desk.

He looked quite human as he worked — because he was human, of course. Only, while his upper arms shuffled through orders on the outer desk, his lower arms calmly typed a report on a typewriter in front of him. His head was normal in appearance, except that it was large, almost — I hesitate to use the word — magnificent. It had to be. He had two brains.

And the third eye. I could see his shirt open at the collar and the third eye nested between his clavicles.

I shuddered.

The rest of him was normal. In fact, the half-hidden third eye and the second brain, really a sub-brain, were fairly well con-

cealed. It was only the extra pair of arms that made him obviously different.

He worked with poise and concentration, paying no attention to the strained atmosphere in the room.

I slipped into my office —
All hell broke loose.

CORTLAND, head of the Automated Engineers, and Simms, head of the Office Technicians, stormed in.

"All right, Bob," said Cortland. "You're Employment. You do the hiring and firing. Get him out of here!"

"It's all a surprise to me," I leveled with them. "I didn't even know he was coming."

"A monster that does the work of two men," said the stoop-shouldered Simms. "The boys want to know what next!"

"An adaptoman may go in San Francisco or Los Angeles," added Cortland. "But this is Worthington, Bob. A small town. We don't want any adaptomen around here."

"Thanks for the lecture," I said drily. "As spokesmen for your unions, you're making this an official protest?"

"It damn well is," said Cort. Simms nodded.

"On what grounds?" I asked.

"He, uh, he's doing an extra man out of a job."

"Now hold on! As far as I can see, he's only doing one job—Production Scheduler, no more, no less. We lost a man yesterday. We hired one today."

"Sure — today," said Simms. "And what has Management got up its sleeve for the future?"

"Like I told you—"

Cortland leaned over my desk, his face red. "No, let me tell you something, Mr. Hunter. Adaptoman goes out of here in twenty-four hours or else they'll carry him out. Remember that!"

Simms nodded energetic approval and the two of them strode out. My buzzer rang. The Chief wanted to see me. I wanted to see him, too, because I knew he was leaving town that morning for an extended trip. But before I could hit the button, Perch, the Yard Master, lumbered in.

"Look, Bob," he said. "Somebody told the yard crew that there was an adaptoman up here. Now the people in skilled labor have taken a lot of pushing around since automation and they don't like the idea. They see adaptomen used in spaceships. Now they see them coming into the office. Next it'll be the yard. Can't you get that laboratory nightmare out of here before trouble starts?"

"I didn't even know he was on the premises until ten min —"

"This is a small town, Bob. It

ain't in the cards. Get the word up front fast. I won't be responsible beyond today."

Perch laboriously waddled out of the office. I knew he had only told me informally what his yardmen would be telling me at boring length in a very short while.

I sighed and turned to the now dead buzzer for the Chief. Then Dr. Kirby came in.

Kirby is a special figure in Worthington. He's the Plant Doctor. In the afternoon, he has a private practice. He's also on the Board of Education, the Red Cross and the City Council. He almost never speaks for himself. He speaks for the town.

"Something new has been added," he said wryly.

"Yes," I said.

"Won't get a medical clearance. Man can't work for SRA without a medical clearance. And I won't give it."

"Why?"

HE SAID glibly: "Adaptomen might carry contagious diseases. A bug they never worked out when they invented the conception gun. Can't have him on the premises. Half the staff will be sick all the time. Might even start an epidemic to spread over Worthington."

That's a myth, of course. And Kirby, a good doctor, knew it. He also knew that he couldn't drive

the adaptoman out as easily with his political and social influence as with his medical influence. Kirby heads the Medical Association. If he said our adaptoman was a health menace, the Association said it.

I sighed. "I'll take it up with the Chief. But look, Frank, I've always been curious about adaptomen. In fact, Marion and I were even thinking . . . maybe . . . our next child —"

Kirby is red-headed and has a flat face with a big, wide grin. Not too humorous. He grinned and shook his head. "It isn't practical, Bob. Adaptomen are just a fad. They were needed to get space travel going. Ships had to be small, pilots and crewmen highly efficient. A man with two sets of arms, an extra eye and an extra brain can manipulate more dials, fix more wiring, think faster, stay awake longer. But that was pioneer stuff, like the early spaceships. Adaptomen are just as useless today. Within five years, they'll be extinct. As far as Worthington goes, we don't even want to bother with 'em."

He peered out of the glass at the adaptoman, whose desk-sign gave his name as James Warwick.

"Can you imagine your daughter in the arms of that four-armed monster?"

"I don't have a daughter," I said. I was getting a little peeved.

I hated to see our small town act like a small town.

He tapped me on the shoulder. "You always were too forward-thinking, Bob. You don't belong in Worthington. You belong in a big city."

"I wanted to belong to space," I snapped. "I wanted to go out there. I've often wished I were adapto myself."

"Well, you're not. Don't go out on a limb for them. It's going to be no sale."

And Kirby left me.

I climbed the stairs to the Inner Sanctum, but found only old Miss Peabody, the Chief's secretary.

"Mr. Eakins had to leave, Mr. Hunter. He had hoped to talk to you for a few minutes, but he is going east for his meeting. He left this message."

She handed me a piece of paper. The chief had scribbled a hasty note on it:

"Have hired an adaptoman, James Warwick, for Decker's job. He's your baby. See that all goes well."

Then: "P.S. In the interests of progress, Space Rocket Assembly Board of Directors has decided to place adaptomen in all factories as a test. Our quota is one. I think he'd better work out. As our Industrial-Public Relations Exec, you've got to carry the ball. Don't drop it. Eakins."

That was like old Eakins. He hated small towns; he hated Worthington. He spent as much time away as possible. He had made political enemies at the Detroit home plant of SRA and was merely passing his exile time at our small branch plant until things grew easier. It was typical for him to sidestep.

I WENT back down the stairs slowly. I'd done a lot of thinking about adaptomen. I had wanted to go out in space—the space travel that adaptomen pioneered. I hadn't been able to. Now Marion and I had seriously discussed whether our next child shouldn't be adaptom. This was going to be a good way to collect information.

"Jimmy," I said to the adaptoman, "we've got problems."

"I know it, Mr. Hunter."

He was blond with green eyes flecked with brown. When I learned that he was only seventeen years old, I doubly cursed old Eakins. A kid! And you could tell from his small build and his fair complexion that he was no rough-and-tumbler. The least they could have done —

"First, the Engineers' Group," I said.

"Could I — could I talk to them, Mr. Hunter?"

"Sure," I said gloomily. "We'll both talk to them. I'm not afraid

of their threats of personal violence —"

He squirmed in his chair.

"— but the yardmen are something else again," I finished.

"It seems to me the yardmen don't count in this. I'm an office worker, not a yard worker."

"Let's face it," I said. "The more sophisticated people, like Cortland and his engineers and Simms and his office technicians, are not so afraid of the unknown, which you represent. But the yardmen aren't that sophisticated. They wouldn't mind punching you on the nose."

"Do me a personal favor, Mr. Hunter. Let me handle them in my own way."

"Furthermore, there's Dr. Kirby."

"He's already spoken to me," said Jimmy, dropping his eyes as if the interview had been painful.

"Well, those are the hurdles," I said. "Not to mention the townspeople. So far, adaptomen are something you find only in outer space — and the Sunday supplements. Where are you staying?"

The poor lad scratched his head. "Well, nowhere yet. Mr. Eakins didn't have any ideas. I've got my suitcase in my car out on the lot. I just arrived this morning and Mr. Eakins brought me right here with my adaptodesk and told me you'd take over."

"Ye gods! Well, you can stay at

my house for a few days until we see —"

I didn't complete the sentence.

CORTLAND and Simms protested loudly and at length. It was all words. Jimmy turned pale at Cortland's vehemence, but pointed out in a small, determined voice that (1) he was human, born of human parents, (2) a citizen entitled to work for his living, and (3) didn't Cortland and the rest believe in free enterprise and the four freedoms?

At that point, I thought Cort was coming over the desk at Jimmy. I made a signal for Jimmy to duck out and let me handle the situation, but he walked straight into the lion's mouth.

"Besides," he said, "you've wired the scheduling control panel all wrong. Your pre-amplifiers are underrated for the job they're doing and some of your servo-motors have too much backlash. The least I can do is straighten your system out for you."

That was a beautiful non sequitur. It left Cortland with his mouth hanging open. He was always fiddling with the circuits of the massive controller and was very proud of his work.

He drew himself up with precisely the look of a woman whose honor has been questioned, de-

manding to know where the hell Jimmy got his information on ratings and circuits for controllers.

After that, the conference was over for me. It degenerated into a hot theoretical argument about gating and damping and time constants. Simms, whose people are almost as engineering-minded as the engineers, stayed with it and they called in a couple of boys and presently the argument moved over to the main office and the controller itself.

That shot the afternoon.

I'm afraid there wasn't much work done, but at the end of the day, Cortland came in grinning.

"Well, so much for your lousy superman," he jeered. "We backed him to the wall. He was wrong all the way. That stupid kid has a lot to learn."

I was about to point out that he couldn't learn if he was run out of the office, when Simms peered in and asked Cortland: "Which of the circuit textbooks did you want me to requisition for Jimmy tomorrow?"

Cortland reeled off a long list of books. His eyes were shining. He was the missionary out to convert the heathen.

"That crazy Adaptoman Institute," he told me. "Like any college—long on theory, short on practice. The kid needs background."



I clamped my mouth shut. I didn't bring up the original objections to Jimmy from Cortland and Simms, and neither did they.

"**N**OW look, sir," said Jimmy. "I have your address. I'll find my way to your house. Would you mind going off and leaving me?"

I pointed out the window. A dozen yardmen stood near Jimmy's beat-up old car, waiting.

"And leave you with that reception committee? Not on your life, Jimmy."

"You'll only make it worse," he said. "It's got to be faced."

I looked at the eager young face. It was pale, but I thought I detected an urgency that couldn't be ignored.

I said: "Okay. I'll gamble."

I called the head of Plant Protection, told him that if Jimmy was seriously hurt, it was the penitentiary for him, breathed a prayer and went home.

Jimmy was a long time in coming. Marion had supper on the table and had heard all about my day three times over before the old car pulled up outside and the adaptoman got out.

Marion gave a cry and almost fainted. They had beaten the kid horribly. He dragged himself into the house. His head was a mass of blood and cuts, his nose was obviously broken, and he was holding

what I figured had to be a broken rib.

"It took three of them," he said, and passed out.

I called the Plant Protection chief. He cursed me hotly. "The young jerk asked for it. He wanted to jump the whole lot of 'em. After that, what could I do? Besides," he added thoughtfully, "it was a damn good fight."

Jimmy came to while Marion washed his cuts.

"Don't look so white, Hunt," he said. "I've been through it a million times at school." Then he turned his face to the wall and went to sleep.

I called Kirby and he came right over. I suspect he'd been waiting by the phone. Kirby may be an egotist and a nuisance, but he does have a healthy scientific curiosity — and he'd never laid a stethoscope on an adaptoman.

He allowed himself only one small "I told you so." Then he hustled into the bedroom with the biggest suitcase of junk I'd ever seen and began to examine the patient. It took him an hour and a half, which seemed overlong to me, even for the beating Jimmy had taken.

Afterward, he rushed out, muttered, "Keep him home for three days," threw some prescriptions at me and took off with an inward, absorbed look on his face.

I went in to see Jimmy. He was

all bandaged up, but sitting up in bed and smoking a cigarette — grinning.

"What's got into Old Kirby?" I growled.

"There's the possibility of a bone-chip on my second brain," he said. "Maybe this fight, maybe some old fight — I've had lots of them. It looks like I'll have to have an exploratory operation."

"You're going to let Dr. Kirby operate on your second brain?"

He nodded, blowing smoke upward. "That's the way we left it. Only it'll be about a month before I'll be built up enough for it."

"But Kirby is only a general practitioner."

"Oh, he's done a little brain work. Not as many as he'd like —"

I sat down weakly. "All right, Adoptoman, I spot your methods. You're doing great. Already got the town licked. Cortland and Simms because they think you're all wet and they can have the fun of retraining you. The yardmen because they admire a guy who can use his fists — never mind the extra pair. Now Kirby. He knows if he kicks you out, he loses the chance of a lifetime to tamper on the operating table with an adaptoman sub-brain. So the struggle for acceptance is over."

"Hardly that, Hunt. An adaptoman is the result of a few radio-

active jolts with the conception gun shortly after pregnancy is established. And pregnancy is a woman's job. We won't win the battle until we win the women. That's going to be hard."

"I know already you're going to win that one, kid."

There was something almost sad in his look. "Let's wait and see."

JIMMY was accepted by Worthington. Have you ever lived in a small town? Every one of them has its town "character," usually a moron or cripple that sells newspapers on the main corner, or works around the barber-shop. He is accepted — as a freak.

That was the acceptance Jimmy had in the next few weeks.

Life seemed to settle back into a normal routine and I was lulled into thinking that Jimmy would slowly work his way up in esteem over the months and years. I couldn't have been more wrong. The next situation was — special.

It began innocently enough when the Reverend Dolson preached a pointed sermon in church one Sunday on adaptomen and what they boded in the way of destruction for the human race. Tampering with men's genes and chromosomes!

But Jimmy had a pretty fair voice and the choir was a little short on tenors. Later, in church

with the Sunday sun soft through the leaded glass window, shining on his young, innocent face as he lifted his head in praise of God —

Dolson gave him a Sunday school class to teach.

And Aggie Burkes from our office also had a class, so it was only natural that she should break him in as to his duties . . .

One night, Marion came home and said: "Jimmy seems to be doing all right. I went to see Aggie Burkes — she had gone out on a date with him."

I chuckled. "That won't last. Cortland will stop it in a hurry, and if he doesn't, plenty of other fellows will."

I was wrong. Jimmy began to date Aggie and the other fellows didn't stop him.

I couldn't understand it. Aggie was the best deal in town. Her father was vice-president of the bank. She worked only because she preferred it that way. She had the clean-washed blonde looks that you associate with magazine ads, and a warm personality with a twist of daring to it . . .

"And that's the point," said Marion. "She doesn't care about Jimmy. It's a bid for attention."

I guess it was, at first. But Jimmy-boy was pretty good on the ski slopes and swimming in the ocean — those extra arms — and when he slid behind the wheel of her convertible and

drove her up into the Worthington Hills . . .

I don't know what went on up in the hills, but I doubt if it was what some people said. After all, Jimmy was only seventeen and she was at least nineteen, and they were both very mild and well controlled.

It was Cortland's letting him get away with it that I didn't understand.

"A bachelor," explained Marion to me patiently, "is really two men — an eager one, but also a frightened one. He would really rather see somebody else take the cold plunge."

"Oh, brother!" I said. "TV psychoanalysis!"

Marion grinned and rubbed her wedding ring on her blouse. The expert!

AND then it happened. A small white envelope in the mail. "Mr. and Mrs. Burkes invite you to —"

I remember quietly laying down the card and going into the kitchen where Marion was cooking fish.

"If Jimmy makes it," I said, "it proves one thing — adaptomen can live entirely normal lives. Even marry the richest, prettiest girl in town."

Marion frowned. "Maybe. But — please, Hunt, I want to think some more about our next child."

I had been pushing her. Seeing Jimmy's success had made me all the more anxious to have our next child adapto. I mean it made sense to me, the way Jimmy explained it after his operation.

Dr. Kirby had had very little to operate on. Jimmy had worked the bone chip to the surface of his brain. He told me that the Adaptoman Institute taught a course in psychodynamics — there weren't many doctors in space.

"We're quite a lot different, Hunt," he said, "but so is all of Man's world. Look how Man has changed it from the time he left the trees. Cities, clothes, food — you name it. He's changed everything except himself."

Now Man was ready to change himself, Jimmy explained. Man had built his instruments so well that they had to wait for him to catch up. To grow extra arms to handle the dials of his automated world. An extra brain to coordinate the mass of data his machines accumulated. An extra eye, even, to be able to watch and read and study and supply his extra brain.

I had watched Jimmy work and there was no doubt about it. His second hand-eye-brain loop could operate as a totally separate unit — or he could read a book while doing a normal job, or paint a picture — or rest his normal vision and normal arms.

He was more than twice as flexible.

"It's got to come, Hunt," he would say. "After all, adaptomen have been out of the laboratory for over fifty years now. We're proving to be the only kind of supermen that mankind will accept — the kind of superman that is his own flesh and blood — that anyone can parent.

"The operation on the mother is routine. Atomic controlled radiation shortly after conception. By that time, the embryo is set and you can still tamper with its unspecialized parts. There've been no mistakes.

"And think of this. If an Arab considers a fat woman beautiful — or an African tribesman cherishes a bride with plate-sized lips —"

He smiled his modest smile and gave me a double shrug.

But there was a lot of sober thinking done in Worthington that night, when those wedding invitations were delivered.

Before, Jimmy was only a temporary fixture. Rootless. Now he was going to become a part of us. A father, a home-owner, a full-fledged citizen.

And his children . . .

I think I hated Jimmy myself for the next week. Of course, adaptomen seldom bred true. But the idea of one of our girls lying in those double arms, and the

third eye sharing marriage-bed secrets . . .

The strain mounted. I felt myself being sharp with the lad, even though he'd become one of us. Marion seemed to turn cold, as if he'd committed some crime. The men who'd been conned into accepting him were frustrated, the women openly hostile. The backyard buzz must have been terrific.

Aggie herself seemed restrained, defiant. I think she really cared for Jimmy, but this was the same girl who once took her father's car through the Old Jantzen river bed on a dare.

Nor could Cortland help. He'd waited too long.

I REMEMBER the night before the wedding. Jimmy got drunk that night, a callow kid, barely eighteen and old enough to be married, yet, with his extra arms and brain, the equivalent of a mature man of thirty.

"Look," I said to him. "This is no go. Aggie isn't right for you. Even I feel that and I'm usually on your side. But you're making too much of an issue of it. A—thrill thing."

I felt like a character in a confession story.

Jimmy picked up his glass and weaved across the living room. His face was pale and sweaty and he kept passing his glass between his upper and lower hands in an

unearthly and horrible fashion.

"Listen, Marion, old bird," he told my wife. "Go 'head, have your little adaptokid. 'Sgreat! Look at me. Self-s'porting at seventeen. Cump'ney president at thirty. Marry the prettiest girl in town. Super, thass what we are—supermen!"

"You're drunk!" said Marion, standing up, her face strained.

"She don't love me and I don't give a damn!" shouted Jimmy. "Proved it anyway. Proved can marry best this loushy town has to offer!"

Marion's hand shot out and she slapped his face. "Monster!"

He grabbed her with his extra arm. Maybe it was only to steady himself, but my flesh crawled and I jumped across the room. I hit him straight on the mouth.

"Get your goddam hands—"

He went down on the floor and cut his hand on his broken glass. He began to weep softly. "'m no monshter. 'm no monshter." He lifted his young, earnest face. "No monshter," he whispered, and blanked out.

A WEDDING is like a stage play; once the curtain goes up, there's no way to stop it short of a fire.

There we sat, practically the whole of Worthington in Dolson's church. The flowers were banked high. The Sun shone through the

leaded windows. The altar looked very solemn and important. The organist did her duty and the soloist sang the old, true songs. But an air of horror prevailed. Men and women looked at one another, amazed at being there.

I had to stand up for Jimmy, which I did, feeling miserable, like an accomplice in a crime. Jimmy came in, trying to de-emphasize his extra arms by keeping them unnaturally still. This only made them more prominent. His extra eye was safely out of sight under his white shirt and tie. It would have been better if he'd peered with it, for it was a merry, soft eye, proud of its uniqueness, in the protected hollow of his throat.

A last-minute delegation of the women to Aggie's the night before had failed.

And now the wedding march began. Jimmy turned to welcome his bride. She looked very white, almost unreal in her lacy gown. The men in the church looked drawn. But the women were staring with almost open horror.

I saw Aggie's eyes flick over at Cortland as she came to the altar.

Then she and Jimmy joined hands and it began.

It will never be easy to forget the moment when Jimmy turned for the ring. I gave it to him. He fumbled it. Maybe it was my fault.

He dropped the ring.

Then he was down on all fours, his hands darting desperately in all directions.

Aggie stared down and her eyes seemed to glaze. "No—not you—*spider!*" she cried. She picked up her train and ran, crying, out the side exit.

Then, in the pin-dropping silence, we all stared at Jimmy and he stared back at us.

I can still hear that high tenor voice: "*But I'm not a monster!*"

Then he covered his face with his hands—four hands—and went quietly weeping down the aisle and out of the church.

We never saw him again.

Bless the Reverend Dolson, he stood there like a captain on a sinking ship and said calmly: "Since the attendance today is better than I usually get on Sunday, I will now preach the sermon I was saving for that day." And he slid into a sermon on tolerance with a great deal of spark and fervor.

It felt warm and cosy there, all closer together, at one with each other, as if we had come to the brink of a tragedy and had been saved.

PICTURE my astonishment when, a few days later, Marion made an appointment to visit the San Francisco Adaptoman Institute.

"Poor Jimmy," she said. "He wasn't really a monster, you know. That horrible Aggie simply led him on."

"But — but —"

"The way he said it," she breathed. "But I'm not a monster!"

"But our child — an adapto — he'll be run out of town."

"Betty Guard is going to have an adapto," said Marion firmly. "So's Nelly Price, maybe. Don't but me any buts."

That's about all to tell.

Except for one thing. Jimmy had rushed back to our house and cleared out of town by the time we returned. He had packed hurriedly and left.

But there was one piece of paper on my desk, left careless like, and yet —

Well, here it is. You judge:

ADAPTOMAN INSTITUTE

Subject: Worthington Assignment

To: Agent James Warwick

(1) You will win acceptance with the men of Worthington by the usual procedures. (2) You will win acceptance of the women of Worthington by the usual procedures. (3) In no case is an agent permitted to marry the girl, as this raises hostility in a new territory. (4) As a last resort, the ring-drop has been found effective. (5) Upon completion of your assignment, you will depart Worthington for your next assign-

ment in Oregon. Do not linger after the ring-drop, since the church routine as you go weeping down the aisle is the best final impression that an agent can possibly leave. It cannot be improved upon. Good luck.

I wonder if Jimmy really forgot that piece of paper.

Or if he figured a poor, confused Employment Manager could be saved one bit of torture as to the devious motives and methods of the human and adapto races.

—RAYMOND E. BANKS



Quota for Conquest

By RICHARD WILSON

*No wonder Fadur was dismayed
— to take over Earth, he had
to manufacture a whole army!*

THE young man from Alfaduriesta was magnificent, as young men from Alfaduriesta go. He had a powerful chest which tapered to a narrow waist, muscular thighs and calves and somewhat oversized feet. His head, admittedly, was small for the body, but not grotesque, and he had the usual number of eyes—three.

That was the trouble, the eyes. Most of the people he would be among had only two eyes, and he

had to mingle. His chest, though massive, was flexible and he could disguise it by breathing shallowly. But he couldn't hide the third eye except under an awkward bandage. The Durien Fathers had goofed that one.

"Go among them and multiply," the Durien Fathers had instructed him before they folded him into the fiery sphere and hurled him through space from the core gun. "Earthwomen are a

Illustrated by GAUGHAN

fun-loving, nubile lot and their men are stupid. Make love to the women and avoid the men, and when you have ten thousand sons, we will attack."

The young man from Alfaduriesta, whose name was Fadur, had asked if the scheme was biologically sound and they had shown him scrolls from the scrollery and flasks from the laboratory and spectrostroboscopic slides from the observatory. These added nothing to his knowledge, but they were an impressive array which gave him more confidence.

"But will their women love me?" Fadur had asked. All the Durien Fathers had winked their upper eyes and the Father-in-Chief had led him to the paternal disguiser.

Soon after that, he was in the downtube, on his way to the spacehurl.

NOW, fully dressed and bandaged, Fadur sat on the sand at Miami Beach and considered his mission. All around him were the fun-loving, nubile women and the stupid, underdeveloped men. There were children, too, but not many.

There would have to be ten thousand male children of his own, he reflected. Simple arithmetic meant at least thirty thousand loves, to allow for the inci-

dence of female offspring and for the percentage of alliances which would be unproductive for one reason or another.

Fadur felt a touch of panic and transferred his gaze to the sea. It looked flat and dull without the perspective of his bandaged third eye. It had been out there—two hundred miles out—that the fiery sphere had plopped him. The Durien Fathers had goofed that one, too. It had been a long swim.

A pleasant maiden strolled past, idly crunching the sand with her toes, and gave Fadur a look. It was the first look he'd had all day and he sprang to his feet and bowed. She stopped and giggled.

"Do me the honor to converse," he said. He thought he put it rather well.

The girl giggled again. "Sure. Why not? Where are you from, India?"

"India, yes," Fadur said. "Sit, please. Where are you from?"

"Dumont, New Jersey," she said. "You're a long way from home. Do you like it here?"

"Yes. And I like you. Shall we hold hands, as a prelude?" The Fathers had warned him the preliminaries must be subtle.

All at once, the girl was goggling frightenedly at him. "I'm fifteen years old and that's my father over there. I don't think I better sit. I think I better walk. Have a nice visit. So long."

"So long," said Fadur, confused by the evaporation of a promising friendship. Fifteen years was not the optimum age, apparently.

He got to his feet and moved away from both the girl and her father who, he noticed, was not underdeveloped in the slightest.

Somebody said "Ouch!" He saw that he had stepped on a portion of the anatomy of someone partially buried in the sand. Only the face was visible, and only a bit of that, hidden under a big straw hat, dark glasses and nose shield.

There was lipstick on the mouth, so it must be a woman.

SHE raised her head and said mildly, "Clumsy oaf."

"Ten thousand pardons," Fadur said, bowing.

"One is enough." The red lips smiled. "Cover up the toesies again, will you?"

Fadur bent and patted sand over the feet, then sat.

"That's better," the woman said. "I burn easily is why I'm all mummified up. What happened to your forehead? Cut yourself diving?"

"Yes. I am clumsy, as you have learned." He thought that was rather good.

"But you make amends nicely. You're not an American, are you? Where are you from, Spain?"

"Yes. A long way from home. Where are you from?"

"Baltimore, Ohio, and my name is Mary Smith. It really is! What's yours?"

"Fadur." This is excellent progress, he thought. He wondered what kind of body she would bring out of the sand and what kind of preliminaries would be appropriate.

"That doesn't sound like a Spanish name—Fadur," she said. "Spaniards have names with lots of things like *de las* and *ys* in them."

"Originally I am from distant India."

"That explains it." Her expression could not be seen under her paraphernalia. "We have an Indian colony in Baltimore and I can say without reservation that they're very nice people."

He felt that the conversation was getting away from him and wished he'd had time to take the course in Advanced English (Idiomatic, Regional References).

"Perhaps we could go to a place and drink whiskey," he suggested, recalling that facet of his indoctrination.

"Not whiskey," she said. "I'm a triple sec and quinine girl myself. What kind of place did you have in mind?"

She unburied her arms and began to push the sand away. Fadur helped, noticing as he did that the body seemed entirely acceptable.

FADUR and Mary Smith sat in a booth in an overcool, overdim cocktail lounge. She had changed into a pale violet gown whose color made him think of Alfaduriesta's pastureland, where grazed the war animals.

The animals were getting disgustingly fat in their idleness. It had been nearly three rotachrons since they'd been saddled and armored in earnest, and then for a short, unsatisfactory conquest. It had lasted barely long enough for Fadur to rise to lance-major.

But there had been compensation. Fadur's post-battle prowess among the women of the sacked cities had been noted by his superiors. So when the choice of a young officer for Mission Earth came to be made, Fadur qualified hands down.

He was not sure he was capable of achieving the quota set for him, but in the tradition of his service, he was prepared to die, if necessary, trying.

So to work, he told himself, sipping the triple sec and quinine water. He found it not unlike the solution he had sometimes put in his eyes with the three-pronged eyedropper to refresh them during battle. Now this was his battle, he thought, looking at the woman from Baltimore, Ohio. She was more than fifteen, he judged by the maturely attractive face, and presumably fatherless.

Back of the third eye, two crenellations and a convolution away, Fadur's alarmer sounded.

"Pardon me," he said. The alarm was a faint clicking in his skull. He went to a telephone booth, closed the door, dialed Weather and listened instead to the clicking.

Reception was terrible. He got the impression of trouble—even danger—all right, but the Durien Fathers weren't reaching him with details. He had only a vague sense that they were trying to tell him there was another agent on Earth. But why? To help him? To spy on him to be sure he did his job?

Or was it an enemy agent from Tryluria, Myachanacia or Dob? But surely those worlds would not interfere with Alfaduriesta's plans for Earth conquest. They were so many light-eons away, they couldn't care less. Besides, Alfaduriesta had whipped two of them decisively in wars and the third, Myachanacia, was so puny that Fadur had to laugh to think of it making trouble for his great world.

He was still laughing when he returned to Mary Smith. "It was my traveling companion from Spain. I had to see if he had need of anything before he leaves for Texas. He needs nothing. He is very happy, having found a beautiful woman."



He held her gaze as he sat down, his face becoming serious.

"I am very happy, too," he said softly.

She smiled encouragingly. "Are you here for business or pleasure, Mr. Fadur?"

"Business," he said. "But perhaps pleasure will also enter into it."

Fadur wasn't sure how long it was before she suggested that they move on. He hadn't yet adjusted to Earth time. He did know he'd given the waiter a number of the green paper rectangles the paternal disguiser had provided and received some metal disks in return. Mary Smith had helped him with the money, as it was called, and expressed surprise that he had so many with pictures of a bearded man named Grant.

The place they moved on to was Mary's apartment.

MATTERS were progressing very well, he thought. Mary sat on a couch and, by degrees, Fadur relaxed until his head was in her lap.

She was tracing the outlines of his face with pleasantly tickling fingertips when things began to go wrong.

"Must you wear that bandage?" she asked.

"Yes. It is an ugly cut."

"Then let me change the dress-

ing for you. I used to be a student nurse."

"No!" He sat upright. She must be the spy the clickings had warned him about.

"Oh, come on. It won't take a minute."

"No!" He stood and backed away.

She got up and came toward him and he bolted out the door, his third eye throbbing under the bandage.

He came out blinking into the street, surprised to find it was still daylight. This heartened him and he took a relatively deep breath, being careful not to strain the alien clothing too far. He might still be able to make a start on his mission today.

He must, in fact, for his morale's sake.

Fadur's two-thirds vision didn't see the convertible racing down the street. It flung him to the ground as brakes squealed.

Three young men piled out of the car and helped him to his feet, feeling for broken bones. There were none, but they said they'd take him to a hospital just in case. Within seconds, he was in the back seat, being raced away.

Two of the men sat in the front, not talking. The third was in the back with Fadur, looking at him solicitously. "That was a nasty spill," he said. "You must be a mass of bruises."

"Actually, no," Fadur said. "I am really not hurt."

"Nothing serious, I'm sure. We're all medical students, as a matter of fact, and we'd know. But it's always best to let the hospital have a look."

"I should prefer not to," Fadur said as firmly as he could without seeming rude. "I assure you there is nothing wrong."

The medical student conferred with his companions in the front seat.

"All right, if you're sure," the driver said. "But I think we ought to keep an eye on you for a while. We were just going for a drive. Why don't you come along?"

"Delighted," Fadur agreed politely, though he should have been getting on with his mission. Now if they had been three young women . . .

As they left the city behind, the car spurted ahead. Fadur relaxed in the back seat and breathed the fine clean wind — which gradually loosened his bandage and then blew it away.

The man from Alfaduriesta did not notice immediately how the scenery sharpened for him as three-thirds vision returned. Not until his companions, one after another, stared at him did he realize he had been unmasked.

He clapped a palm over the eye in his forehead. With his other eyes, he awaited the reactions of

the three young men. At least they had not turned away in disgust.

He was grateful for that.

THE convertible slowed, then stopped at the side of the road. The driver turned in his seat. His tone was almost conversational. "I did see a third eye in your forehead, didn't I?"

"Yes," Fadur said warily. Useless to deny it. His other eyes watched them. He was prepared to fight them like the warrior he was if they even suspected he was an alien bent on conquest of their world.

"You poor guy. So that's why you wore the bandage. What you need is an operation."

"An operation?"

"To remove the third eye. Make you look like everybody else."

"Maybe he doesn't want to look like everybody else, Ben," the man next to the driver said. "Maybe that third eye is his living. You with the circus up at Sarasota?"

"No," said Fadur. He was glad he wouldn't have to fight these friendly people who not only did not suspect him but were anxious to help him. They might be useful. Slowly he moved his hand away from the third eye.

The medical students looked at it with professional interest. Ask-

ing his permission, they took turns examining it.

Fadur decided on frankness. Not much, but enough to appeal to them on a plane which they, as virile young men, would understand.

"With three eyes, I can see the young ladies much better," he explained, "but they do not choose to see me."

"That's rough," the man next to him said. "That really is. We ought to do something about that. You ought to, Ben. You're the one who's going to be the plastic surgeon."

Ben frowned and examined the eye again. "Hell of a series of operations. But a little cosmetic disguise for a one-night stand — a snap!"

"Do you mean it would not be difficult?" Fadur asked. "That I could perhaps disguise the eye myself?"

"Easy," Ben said, "once I showed you how." He turned to the others. "Men, it's a time for action. I propose that we make amends for running him down by guaranteeing him a girl tonight."

"Hear, hear," the others said.

"I therefore further propose that we head back to the hospital for the necessary materials, then to the beer store for the necessary beer, then to my apartment. And when our friend is fixed up eye-wise, we'll fix him up further with

one of the pleasantest little babes he ever laid two or more eyes on."

"DON'T put *all* the alcohol in the punch, George," Ben said. "We need some of it for Faddy's cosmetology."

The fact that Fadur's third eye was set deep in its socket made it relatively easy to disguise. Fadur, who had resigned himself to answering to Faddy or Fade, watched his mirror image closely as the work progressed. He asked an occasional question and was allowed to do some of the job.

As Ben worked on him, the other two medical students prepared for the party. George and Ralph had already used the telephone and four young ladies were on tap. Ralph was to fetch them in the convertible as soon as Ben was satisfied that Fadur would pass inspection.

"For Pete's sake, don't get the colloid mixed up with the calves' brains!" Ben yelled at George, who was puttering at the buffet. "Faddy, work in some more of that pigment. That's it. Ralph, we're almost finished. You can get the girls now."

"You're the doctor," Ralph said. He went.

Ben stood back to admire his work. "Now for the finishing touches. It's all built up, but it's still a little grainy. Know what's good for that? Good old pancake

makeup. The sins that stuff covers up!"

They were having a drink in celebration when Ralph returned with the girls. He introduced them to Fadur: Marie, Lily, Taffy and Joyce.

They were all quite acceptable, Fadur thought, but Taffy seemed to him to be the most exciting. He was pleased when the boys told him she had been invited especially for him. She had a better figure than the other girls and her hair was long, unlike the boyish cuts of the others. He especially liked the heavy bangs that fell across her forehead.

He also liked the friendly way she took his arm and her laughter as they helped themselves at the buffet. He found that he was quite hungry and was glad to see her eat well, too. In fact, everything she did made him feel at home.

He looked at the other men to smile his thanks to them for what they had done, especially Ben, and they grinned back and nodded. Wonderful people, he thought. What a pity he and his ten thousand sons must one day make war on them. It was ironic that their kindness to him would be the means by which Alfadurista would bring them to their knees, but war is full of ironies. The mission was going well at last.

He was confident that the

friendly Taffy would also be kind to him and thus be the first to help him fill his quota. Everything about the party — the falling level of the punch bowl, the gradual putting out of lights — was leading in that direction.

The last lamp winked out. There were a few laughs, then silence.

Taffy's body was soft against his. This was the moment, the first of ten thousand. He was about to guide her to an unoccupied corner he had strategically noted earlier — when all the lights came on, blindingly.

The nubile Taffy was holding a weapon aimed directly at his hidden third eye. He blinked the other two in surprise. The other girls had gone, but the three men were there, each with a pistol trained on him.

BEN broke the silence. "Shall we introduce ourselves? You are —"

"Fadur, a traveler from India." He sought to brazen it out, but in spite of himself, he inhaled and his chest expanded threateningly.

"None of that," Ben warned. "It just makes you a bigger target, Lance-Major Fadur of Alfadurista."

Ralph was grinning. "First intergalactic spy," he said, "and a rather stupid one."

Fadur's chest deflated. The Du-

rien Fathers had really goofed. "Who are you?" he asked miserably.

"No harm in telling you now, Lance-Major. I'm Ben Haskill of C.I.A. This is Ralph Peddiford of M.I.5 and this is Georgi Rakov of Red Army Intelligence."

"But how—?" Fadur began. Surely he had not given himself away. He had been so careful.

"You had the misfortune to come to Earth during the International Geophysical Year," Ben told him, "when every telescope in the world was tracking the artificial satellites. You were under surveillance from the minute you entered Earth's atmosphere."

Fadur felt numb. "Who is the girl?"

"You should know better than we. She's from your system, not ours."

Taffy, smiling insultingly, lifted the bangs he had admired so. From the middle of her forehead, a third eye gleamed triumphantly at him.

"You're not from Alfaduriesta!" Fadur cried. "We have no traitors among us."

"Not Alfaduriesta," the girl said. She took a deep breath and her bosom swelled magnificently. "It's good to be oneself again. I am Tafi, of Myachanacia, the planet of women. You invaded and sacked Tryluria and Dob, but you never dared attack Myachanacia.

You knew we'd swallow you up."

"Ridiculous! Alfaduriesta fears no one."

"Except us," Tafi said. "You knew that if your soldiers carried on at Myachanacia in their usual way, you'd leave us with the strain we needed to make us great. You did not dare supply the missing gene whose absence has kept our men weak and our courageous women not quite strong enough. But now we have you, Lance-Major Fadur."

HER meaning was unmistakable. Fadur appealed to his fellow males. "I plead extraterrestriality. You can't let her kidnap me and— It's humiliating."

"We have no jurisdiction over you," Ben Haskill told him. "Tafi has. She came to us openly and brought a warrant. Our governments have consulted and agreed to honor it. It seems only justice. Besides, none of our countries wants any part of your ten thousand three-eyed babies. We happen to be prejudiced in favor of two."

"Don't let her take me! I'll do anything you say. I'll be good!"

"You'd better be," Tafi said. "Because on Myachanacia, your quota won't be a mere ten thousand. According to your reputation, that should be a fitting life sentence."

As Fadur was herded to Tafi's

spaceship, there was a clicking in his skull. Then, for the first time since he had left, Alfaduriesta was in clear contact.

"Lance-Major Fadur, attention to orders," the message said. "Return immediately. Operation Earth canceled. Reason: potential threat from Myachanacia, where our agent reports plans for secret weapon posing ultimate invasion."

Fadur supposed he should feel flattered. His chest expanded a bit as he looked sideways at the beautiful Tafi and thought of her millions of equally beautiful love-starved sisters.

What the stupid Durien Fathers didn't know, but what Fadur knew all too well, was that he was the secret weapon.

—RICHARD WILSON



FORECAST

In LULU, next month's lead novelet, Clifford D. Simak gives fair warning that we're in for servomechanism trouble unless we prove a lot smarter than we have been in related matters. Don't, he insists, invoke the worried wisdom of the oncients and the jountily cockeyed knowledge of mariners, pilots and drivers of all sorts! Though the experience of these advance agents with cybernetics ranges from zero to somewhat, it is generally sad and points invariably to caution. And their colomitous histories add up to this innocent-seeming conclusion, which proves to be a nerve-snapping threat: A spoceship should be a darb, o smasher, a pip, o beaut . . . but man all bottle stations if it ever becomes o sweetheart of a ship!

One of the supporting pair of novelets is CONFIDENCE GAME by Jim Harmon, a man with a Vesuvius of o talent that, we predict, is good for a giant flow of flaming literary love for decodes to come. CONFIDENCE GAME is perhaps the oddest con you've ever encountered: Its protogonist, if that's whot he is, has no qualms about odmitting that he doesn't know whether he is coming or going . . . but he does know that if he sticks to the old mon, he is o comer . . . even if the old man is a goner!

Along with some fine short stories is Willy Ley's THE TRIBES OF THE DINOSAURS, which goes over old ground — more than a hundred million years old — in an excitingly new way. So you think you know dinosaurs, do you? Don't be sure, for Ley is bound to prove most of it downright misinformation . . . but then, after showing why it is wrong, he sets it right with vivid clarity.



GALAXY'S **5 Star Shelf**

TIME FOR THE STARS by Robert A. Heinlein. Charles Scribner's Sons, N. Y. \$2.75

IF YOU think this is strictly a juvenile, you're going to miss out on an engrossing yarn.

A pair of identical twins are the protagonists, selected by the Long Range Foundation, a non-profit organization that takes on projects that no other agency will tackle due to excessive expense or poor immediate return on investment.

Along with other twins, also latent telepaths, the protagonist

pair are trained as communicators for the first star ships. Experiments have shown that telepathy is instantaneous, a discovery that opens interstellar travel to Man.

Tom Bartlett, the narrator, is the lesser half of the set. Pat, the more aggressive twin, is obviously the choice for the team half who is to be enshipped, so Tom will remain Earthbound, aging while his counterpart remains youthful in Einstein time. The thing to remember, however, is that Heinlein is always logical but never obvious, even in his juveniles.

The plot twists will take you by surprise and the characterizations will delight you.

I say "you" because, if you don't battle your youngun for first look, you may never get it out of his clutches.

SATELLITE! by Erik Bergaust and William Beller. Hanover House, N. Y., \$3.95

AS I write this, the Air Force has just fired the first experimental rocket of the satellite program from Cape Canaveral, Fla. If not for this, the book would seem to be merely the tardy latest of the spate of satellite books that have appeared since the government program announcement. Instead, some of the information is new and most of the remainder is an interesting resumé of material found elsewhere. Of course, that is a fault to be pinned on any but the first book concerning about any subject.

Unfortunately, the most gripping information by far cannot be written for security reasons. I can wait for it — but not patiently.

STRANGERS IN THE UNIVERSE by Clifford D. Simak. Simon and Schuster, N.Y., \$3.50

IT HAPPENS that I'm a Simak fan since "World of the Red Sun," and both of us would hate

to admit how long *that* is. His present collection of eleven short stories contains some of the best writing he's done, as well as a couple of pot-boilers that some dastard sneaked in.

"Kindergarten," "Beachhead" and "Skirmish" are all topnotch, the former from these pages.

As his admirers know by now, Simak can run a gamut as well as anyone in the field, both in subject matter and treatment. The book demonstrates just how much ground he can cover, which is darn near a Decathlon.

SPOOKE DELUXE by Danton Walker. Franklin Watts, Inc., \$3.95

NOTHING ever happens to Walker except that people talk to him. However, those people are very frequently interesting and newsworthy. According to him, quite a few have had most unusual encounters with the supernatural that would ordinarily go unrecorded. To save these yarns from oblivion, Walker has secured permission to quote these notable sources, unlikely ones such as Mae West, a most earthy person: Burl Ives, substantial indeed; Ida Lupino, Dorothy Massey, etc.

The episodes are all concise and understated and, as a result, come out quite credible.

E PLURIBUS UNICORN by Theodore Sturgeon. Ballantine Books, N. Y., \$2.00

ABELARD first published this collection in 1953 and, since Sturgeon has never appeared to more horrible disadvantage, Ballantine is to be commended for making the book presentable.

The keynote of the volume is horror and very few fantasists today can hold a taper to Sturgeon when he gets a mood on. "The Professor's Teddy-Bear," "Fluffy" and "A Way of Thinking" have as many shudders packed into their few pages as most full-length weird novels. As change of pace, and thoroughly absorbing in their own rights, two fairy stories are added, "The Silken-Swift" and "The World Well Lost."

This is fine off-trail Sturgeon, but what Sturgeon isn't?

THE VENGEFUL SEA by Edward Rowe Snow. Dodd, Mead & Co., N. Y., \$4.00

SCIENCE fiction has used the sea as source material from the days of Verne down to last year's *Dragon in the Sea* and the Williamson-Pohl series. It is obvious that the sea has always taxed Man's ingenuity and remains far from conquered even today.

Snow has become a foremost

chronicler of true stories of the deeps — this volume follows twenty-odd predecessors. It deals with some of the most astonishing true-fact shipwrecks imaginable.

The Snow of the future, dramatizing spaceship disasters, will have to come up with really flamboyant cases to outdo these true sea calamities.

SHADOW OVER THE EARTH by Philip Wilding. Philosophical Library, N. Y., \$3.50

IF WILDING shows the same improvement in his next effort as he does in this over *Spaceflight — Venus*, he should reach the level that S-F touched a quarter of a century ago.

It is remarkable that the same publishers who have been responsible for such excellent non-fiction English-printed volumes can do no better than this fifth-rate novel.

With the high level of English S-F what it is, it must take extreme effort by the editors to avoid the good fiction available.

YOU DO TAKE IT WITH YOU by R. DeWitt Miller. Citadel Press, N. Y., \$3.50

MILLER is well known for his many articles on psychical research as well as his fictional efforts. For a considerable time, he conducted the monthly "For-

gotten Mysteries" feature in *Coronet*. He is a very compelling writer, wisely using disclaimers and understatements.

The point he makes is that we are the ones who live outside the "larger reality."

STRANGEST OF ALL by Frank Edwards. Citadel Press, N. Y., \$3.50

EDWARDS is the same man you thought you mistook the name for—the radio and TV commentator who became famous on AFL time. This book is hardly what one would expect from such a solid, mundane background. Edwards has collected strange data in the fashion of Charles Fort, but has presented his book in straight reportorial style.

Some of the anecdotes are startling, such as that of the strange motor of John Keely's. Even if it wasn't perpetual motion, the man seems to have had *something*.

Of thirty-five assorted strange tales, over half are new. Others, like the endless speculation over the death of Napoleon, may be the second time around for some of you. Of course, we can be sure that similar guesswork on Hitler's death will also find its way into future volumes like this. May the guesses be no less attention-gripping.

AND THE WATERS PRE-VAILED by D. Moreau Barringer. E. P. Dutton & Co., Inc., N. Y., \$3.00

SINCE Wells's "A Story of the Stone Age," countless similar yarns have seen print, but only a handful have had the stature of this so-called juvenile.

Instead of following the familiar pattern of necessity and invention, Barringer strikes out on a new trail, the development of abstract thought. His hero, Andor, is as unlikely a Stone Age hero as possible. He is small, thin and has nothing but a keen mind.

The story follows Andor from his early youth, and his success in the Manhood Hunt, through his entire span of life. It records his discovery of the waters of the Atlantic and his realization, requiring reasoning far ahead of his time, that they constituted a threat to his Mediterranean Basin village.

Most authors would have ended their story with a battle between Andor and the giant chief, with the nimble wits of Andor saving himself and the entire community. Instead, Andor suffers the bitter frustrations of most visionaries who live before their time.

The characterizations are as excellent as the plot structure and background.

— FLOYD C. GALE

TIME IN THE ROUND

By FRITZ LEIBER

*Poor Butcher suffered more than any dictator
in history: everybody gave in to him because
he was so puny and they were so impregnable!*

FROM the other end of the Avenue of Wisdom that led across the Peace Park, a gray, hairless, heavily built dog was barking soundlessly at the towering crystal glory of the Time Theater. For a moment, the effect was almost frightening: a silent picture of the beginning of civilization challenging the end of

it. Then a small boy caught up with the dog and it rolled over enthusiastically at his feet and the scene was normal again.

The small boy, however, seemed definitely pre-civilization. He studied the dog coldly and then inserted a thin metal tube under its eyelid and poked. The dog wagged its stumpy tail. The



boy frowned, tightened his grip on the tube and jabbed hard. The dog's tail thumped the cushiony pavement and the four paws beat the air. The boy shortened his grip and suddenly jabbed the dog several times in the stomach. The stiff tube rebounded from the gray, hairless hide. The dog's face split in an upside-down grin, revealing formidable ivory fangs across which a long black tongue lolled.

The boy regarded the tongue speculatively and pocketed the metal tube with a grimace of utter disgust. He did not look up when someone called: "Hi, Butch! Sic 'em, Darter, sic 'em!"

A larger small boy and a somewhat older one were approaching across the luxurious, neatly cropped grass, preceded by a hurtling shape that, except for a black hide, was a replica of Butch's gray dog.

Butch shrugged his shoulders resignedly and said in a bored voice: "Kill 'em, Brute."

THE gray dog hurled itself on Darter. Jaws gaped to get a hold on necks so short and thick as to be mere courtesy terms. They whirled like a fanged merry-go-round. Three more dogs, one white, one slate blue and one pink, hurried up and tried to climb aboard.

Butch yawned.

"What's the matter?" inquired Darter's master. "I thought you liked dog fights, Butch."

"I do like dog fights," Butch said somberly, without looking around. "I don't like uninj fights. They're just a pretend, like everything else. Nobody gets hurt. And look here, Joggy — and you, too, Hal — when you talk to me, don't just say Butch. It's the Butcher, see?"

"That's not exactly a functional name," Hal observed with the judiciousness of budding maturity, while Joggy said agreeably: "All right, Butcher, I suppose you'd like to have lived way back when people were hurting each other all the time so the blood came out?"

"I certainly would," the Butcher replied. As Joggy and Hal turned back skeptically to watch the fight, he took out the metal tube, screwed up his face in a dreadful frown and jabbed himself in the hand. He squeaked with pain and whisked the tube out of sight.

"A kid can't do anything any more," he announced dramatically. "Can't break anything except the breakables they give him to break on purpose. Can't get dirty except in the dirt-pen — and they graduate him from that when he's two. Can't even be bitten by an uninj — it's contraprogrammed."

"Where'd you ever get so fix-

ated on dirt?" Hal asked in a gentle voice acquired from a robot adolescent.

"I've been reading a book about a kid called Huckleberry Finn," the Butcher replied airily. "A swell book. That guy got dirtier than anything." His eyes became dreamy. "He even ate out of a garbage pail."

"What's a garbage pail?"

"I don't know, but it sounds great."

The battling uninjes careened into them. Brute had Darter by the ear and was whirling him around hilariously.

"Aw, *quit* it, Brute," the Butcher said in annoyance.

Brute obediently loosed his hold and returned to his master, paying no attention to his adversary's efforts to renew the fight.

The Butcher looked Brute squarely in the eyes. "You're making too much of a rumpus," he said. "I want to think."

HE KICKED Brute in the face. The dog squirmed joyously at his feet

"Look," Joggy said, "you wouldn't hurt an uninj, for instance, would you?"

"How can you hurt something that's uninjurable?" the Butcher demanded scathingly. "An uninj isn't really a dog. It's just a lot of circuits and a micropack bedded in hyperplastic." He looked

at Brute with guarded wistfulness.

"I don't know about that," Hal put in. "I've heard an uninj is programmed with so many genuine canine reactions that it practically has racial memory."

"I mean if you *could* hurt an uninj," Joggy amended.

"Well, maybe I wouldn't," the Butcher admitted grudgingly. "But shut up—I want to think."

"About what?" Hal asked with saintly reasonableness.

The Butcher achieved a fearful frown. "When I'm World Director," he said slowly, "I'm going to have warfare again."

"You think so now," Hal told him. "We all do at your age."

"We do not," the Butcher retorted. "I bet you didn't."

"Oh, yes, I was foolish, too," the older boy confessed readily. "All newborn organisms are self-centered and inconsiderate and ruthless. They have to be. That's why we have uninjes to work out on, and death games and fear houses, so that our emotions are cleared for adult conditioning. And it's just the same with newborn civilizations. Why, long after atom power and the space drive were discovered, people kept having wars and revolutions. It took ages to condition them differently. Of course, you can't appreciate it this year, but Man's greatest achievement was when he learned to automatically reject all

violent solutions to problems. You'll realize that when you're older."

"I will not!" the Butcher countered hotly. "I'm not going to be a sissy." Hal and Joggy blinked at the unfamiliar word. "And what if we were attacked by bloodthirsty monsters from outside the Solar System?"

"The Space Fleet would take care of them," Hal replied calmly. "That's what it's for. Adults aren't conditioned to reject violent solutions to problems where non-human enemies are concerned. Look at what we did to viruses."

"But what if somebody got at us through the Time Bubble?"

"They can't. It's impossible."

"Yes, but suppose they did all the same."

"You've never been inside the Time Theater—you're not old enough yet—so you just can't know anything about it or about the reasons why it's impossible," Hal replied with friendly factuality. "The Time Bubble is just a viewer. You can only look through it, and just into the past, at that. But you can't travel through it because you can't change the past. Time traveling is a lot of kid stuff."

"I don't care," the Butcher asserted obstinately. "I'm still going to have warfare when I'm World Director."

"They'll condition you out of

the idea," Hal assured him.

"They will not. I won't let 'em."

"It doesn't matter what you think now," Hal said with finality. "You'll have an altogether different opinion when you're six."

"Well, what if I will?" the Butcher snapped back. "You don't have to keep *telling* me about it, do you?"

THE others were silent. Joggy began to bounce up and down abstractedly on the resilient pavement. Hal called in his three uninjes and said in soothing tones: "Joggy and I are going to swim over to the Time Theater. Want to walk us there, Butch?"

Butch scowled.

"How about it, Butch?"

Still Butch did not seem to hear.

The older boy shrugged and said: "Oh, well, how about it—Butcher?"

The Butcher swung around. "They won't let me in the Time Theater. You said so yourself."

"You could walk us over there."

"Well, maybe I will and maybe I won't."

"While you're deciding, we'll get swimming. Come along, Joggy."

Still scowling, the Butcher took a white soapy crayon from the bulging pocket in his silver shorts. Pressed into the pavement, it

made a black mark. He scrawled pensively: **KEEP ON THE GRASS.**

He gazed at his handiwork. No, darn it, that was just what grownups wanted you to do. This grass couldn't be hurt. You couldn't pull it up or tear it off; it hurt your fingers to try. A rub with the side of the crayon removed the sign. He thought for a moment, then wrote: **KEEP OFF THE GRASS.**

With an untroubled countenance, he sprang up and hurried after the others.

Joggy and the older boy were swimming lazily through the air at shoulder height. In the pavement directly under each of them was a wide, saucer-shaped depression which swam along with them. The uninjes avoided the depressions. Darter was strutting on his hind legs, looking up inquiringly at his master.

"Gimme a ride, Hal, gimme a ride!" the Butcher called. The older boy ignored him. "Aw, gimme a ride, Joggy."

"Oh, all right." Joggy touched the small box attached to the front of his broad metal harness and dropped lightly to the ground. The Butcher climbed on his back. There was a moment of rocking and pitching, during which each boy accused the other of trying to upset them.

Then the Butcher got his balance and they began to swim

along securely, though at a level several inches lower. Brute sprang up after his master and was invisibly rebuffed. He retired baffled, but a few minutes later, he was amusing himself by furious futile efforts to climb the hemispherical repulsor field.

Slowly the little cavalcade of boys and uninjes proceeded down the Avenue of Wisdom. Hal amused himself by stroking toward a tree. When he was about four feet from it, he was gently bounced away.

IT WAS really a more tiring method of transportation than walking and quite useless against the wind. True, by rocking the repulsor hemisphere backward, you could get a brief forward push, but it would be nullified when you rocked forward. A slow swimming stroke was the simplest way to make progress.

The general sensation, however, was delightful and levitators were among the most prized of toys.

"There's the Theater," Joggy announced.

"I know," the Butcher said irritably.

But even he sounded a little solemn and subdued. From the Great Ramp to the topmost airy finial, the Time Theater was the dream of a god realized in un-earthly substance. It imparted the aura of demigods to the adults

drifting up and down the ramp.

"My father remembers when there wasn't a Time Theater," Hal said softly as he scanned the facade's glowing charts and maps. "Say, they're viewing Earth, somewhere in Scandinavia around zero in the B.C.-A.D. time scale. It should be interesting."

"Will it be about Napoleon?" the Butcher asked eagerly. "Or Hitler?" A red-headed adult heard and smiled and paused to watch. A lock of hair had fallen down the middle of the Butcher's forehead, and as he sat Joggy like a charger, he did bear a faint resemblance to one of the grim little egomaniacs of the Dawn Era.

"Wrong millennium," Hal said.

"Tamerlane then?" the Butcher pressed. "He killed cities and piled the skulls. Blood-bath stuff. Oh, yes, and Tamerlane was a Scand of the Navies."

Hal looked puzzled and then quickly erased the expression. "Well, even if it is about Tamerlane, you can't see it. How about it, Joggy?"

"They won't let me in, either."

"Yes, they will. You're five years old now."

"But I don't feel any older," Joggy replied doubtfully.

"The feeling comes at six. Don't worry, the usher will notice the difference."

Hal and Joggy switched off their levitators and dropped to

their feet. The Butcher came down rather hard, twisting an ankle. He opened his mouth to cry, then abruptly closed it hard, bearing his pain in tight-lipped silence like an ancient soldier—like Stalin, maybe, he thought. The red-headed adult's face twitched in half-humorous sympathy.

Hal and Joggy mounted the Ramp and entered a twilit corridor which drank their faint footsteps and returned pulses of light. The Butcher limped manfully after them, but when he got inside, he forgot his battle injury.

HAL looked back. "Honestly, the usher will stop you."

The Butcher shook his head. "I'm going to think my way in. I'm going to think old."

"You won't be able to fool the usher, Butcher. You under-fives simply aren't allowed in the Time Theater. There's a good reason for it—something dangerous might happen if an under-five got inside."

"Why?"

"I don't exactly know, but something."

"Hah! I bet they're scared we'd go traveling in the Time Bubble and have some excitement."

"They are not. I guess they just know you'd get bored and wander away from your seats and maybe disturb the adults or upset the

electronics or something. But don't worry about it. Butcher. The usher will take care of you."

"Shut up—I'm thinking I'm World Director," the Butcher informed them, contorting his face diabolically.

Hal spoke to the uninjes, pointing to the side of the corridor. Obediently four of them lined up.

But Brute was peering down the corridor toward where it merged into a deeper darkness. His short legs stiffened, his neckless head seemed to retreat even further between his powerful shoulders, his lips writhed back to show his gleaming fangs, and a completely unfamiliar sound issued from his throat. A choked, grating sound. A growl. The other uninjes moved uneasily.

"Do you suppose something's the matter with his circuits?" Joggy whispered. "Maybe he's getting racial memories from the Scands."

"Of course not," Hal said irritably.

"Brute, get over there," the Butcher commanded. Unwillingly, eyes still fixed on the blackness ahead, Brute obeyed.

The three boys started on. Hal and Joggy experienced a vaguely electrical tingling that vanished almost immediately. They looked back. The Butcher had been stopped by an invisible wall.

"I told you you couldn't fool the usher," Hal said.

The Butcher hurled himself forward. The wall gave a little, then bounced him back with equal force.

"I bet it'll be a bum time view anyway," the Butcher said, not giving up, but not trying again. "And I still don't think the usher can tell how old you are. I bet there's an over-age teacher spying on you through a hole, and if he doesn't like your looks, he switches on the usher."

BUT the others had disappeared in the blackness. The Butcher waited and then sat down beside the uninjes. Brute laid his head on his knee and growled faintly down the corridor.

"Take it easy, Brute," the Butcher consoled him. "I don't think Tamerlane was really a Scand of the Navies anyhow."

Two chattering girls hardly bigger than himself stepped through the usher as if it weren't there.

The Butcher grimly slipped out the metal tube and put it to his lips. There were two closely spaced faint *plops* and a large green stain appeared on the bare back of one girl, while purple fluid dripped from the close-cropped hair of the other.

They glared at him and one of



them said: "A cub!" But he had his arms folded and wasn't looking at them.

Meanwhile, subordinate ushers had guided Hal and Joggy away from the main entrance to the Time Theater. A sphincter dilated and they found themselves in a small transparent cubicle from which they could watch the show without disturbing the adult audience. They unstrapped their levitators, laid them on the floor and sat down.

The darkened auditorium was circular. Rising from a low central platform was a huge bubble of light, its lower surface somewhat flattened. The audience was seated in concentric rows around the bubble, their keen and compassionate faces dimly revealed by the pale central glow.

But it was the scene within the bubble that riveted the attention of the boys.

Great brooding trees, the trunks of the nearer ones sliced by the



bubble's surface, formed the background. Through the dark, wet foliage appeared glimpses of a murky sky, while from the ceiling of the bubble, a ceaseless rain dripped mournfully. A hooded figure crouched beside a little fire partly shielded by a gnarled trunk. Squatting round about were wiry, blue-eyed men with shoulder-length blond hair and full blond beards. They were clothed in furs and metal-studded leather.

Here and there were scattered weapons and armor — long swords glistening with oil to guard them from rust, crudely painted circular shields, and helmets from which curved the horns of beasts. Back and forth, lean, wolflike dogs paced with restless monotony.

SOMETIMES the men seemed to speak together, or one would rise to peer down the misty forest vistas, but mostly they

were motionless. Only the hooded figure, which they seemed to regard with a mingled wonder and fear, swayed incessantly to the rhythm of some unheard chant.

"The Time Bubble has been brought to rest in one of the barbaric cultures of the Dawn Era," a soft voice explained, so casually that Joggy looked around for the speaker, until Hal nudged him sharply, whispering with barely perceptible embarrassment: "Don't do that, Joggy. It's just the electronic interpreter. It senses our development and hears our questions and then it automats background and answers. But it's no more alive than an adolescent or a kinderobot. Got a billion microtapes, though."

The interpreter continued: "The skin-clad men we are viewing in Time in the Round seem to be a group of warriors of the sort who lived by pillage and rapine. The hooded figure is a most unusual find. We believe it to be that of a sorcerer who pretended to control the forces of nature and see into the future."

Joggy whispered: "How is it that we can't see the audience through the other side of the bubble? We can see through this side, all right."

"The bubble only shines light out," Hal told him hurriedly, to show he knew some things as well

as the interpreter. "Nothing, not even light, can get into the bubble from outside. The audience on the other side of the bubble sees into it just as we do, only they're seeing the other way—for instance, they can't see the fire because the tree is in the way. And instead of seeing us beyond, they see more trees and sky."

Joggy nodded. "You mean that whatever way you look at the bubble, it's a kind of hole through time?"

"That's right." Hal cleared his throat and recited: "The bubble is the locus of an infinite number of one-way holes, all centering around two points in space-time, one now and one then. The bubble looks completely open, but if you tried to step inside, you'd be stopped—and so would an atom beam. It takes more energy than an atom beam just to maintain the bubble, let alone maneuver it."

"I see, I guess," Joggy whispered. "But if the hole works for light, why can't the people inside the bubble step out of it into our world?"

"Why—er—you see, Joggy—"

The interpreter took over. "The holes are one-way for light, but no-way for matter. If one of the individuals inside the bubble walked toward you, he would cross-section and disappear. But

to the audience on the opposite side of the bubble, it would be obvious that he had walked away along the vista down which they are peering."

AS IF to provide an example, a figure suddenly materialized on their side of the bubble. The wolflike dogs bared their fangs. For an instant, there was only an eerie, distorted, rapidly growing silhouette, changing from blood-red to black as the boundary of the bubble cross-sectioned the intruding figure. Then they recognized the back of another long-haired warrior and realized that the audience on the other side of the bubble had probably seen him approaching for some time.

He bowed to the hooded figure and handed him a small bag.

"More atavistic cubs, big and little! Hold still, Cynthia," a new voice cut in.

Hal turned and saw that two cold-eyed girls had been ushered into the cubicle. One was wiping her close-cropped hair with one hand while mopping a green stain from her friend's back with the other.

Had nudged Joggy and whispered: "Butch!"

But Joggy was still hypnotized by the Time Bubble.

"Then how is it, Hal," he asked, "that light comes out of the bub-

ble, if the people don't? What I mean is, if one of the people walks toward us, he shrinks to a red blot and disappears. Why doesn't the light coming our way disappear, too?"

"Well — you see, Joggy, it isn't real light. It's —"

Once more the interpreter helped him out.

"The light that comes from the bubble is an isotope. Like atoms of one element, photons of a single frequency also have isotopes. It's more than a matter of polarization. One of these isotopes of light tends to leak futureward through holes in space-time. Most of the light goes down the vistas visible to the other side of the audience. But one isotope is diverted through the walls of the bubble into the Time Theater. Perhaps, because of the intense darkness of the theater, you haven't realized how dimly lit the scene is. That's because we're getting only a single isotope of the original light. Incidentally, no isotopes have been discovered that leak pastward, though attempts are being made to synthesize them."

"Oh, explanations!" murmured one of the newly arrived girls. "The cubs are always angling for them. Apple-polishers!"

"I like this show," a familiar voice announced serenely. "They

cut anybody yet with those choppers?"

Hal looked down beside him. "Butch! How did you manage to get in?"

"I don't see any blood. Where's the bodies?"

"But how *did* you get in — Butcher?"

THE Butcher replied airily: "A red-headed man talked to me and said it certainly was sad for a future dictator not to be able to enjoy scenes of carnage in his youth, so I told him I'd been inside the Time Theater and just come out to get a drink of water and go to the eliminator, but then my sprained ankle had got worse — I kind of tried to get up and fell down again — so he picked me up and carried me right through the usher."

"Butcher, that wasn't honest," Hal said a little worriedly. "You tricked him into thinking you were older and his brain waves blanketed yours, going through the usher. I really *have* heard it's dangerous for you under-fives to be in here."

"The way those cubs beg for babying and get it!" one of the girls commented. "Talk about sex favoritism!" She and her companion withdrew to the far end of the cubicle.

The Butcher grinned at them briefly and concentrated his at-

tention on the scene in the Time Bubble.

"Those big dogs —" he began suddenly. "Brute must have smelled 'em."

"Don't be silly," Hal said. "Smells can't come out of the Time Bubble. Smells haven't any isotopes and —"

"I don't care," the Butcher asserted. "I bet somebody'll figure out someday how to use the bubble for time traveling."

"You can't travel in a point of view," Hal contradicted, "and that's all the bubble is. Besides, some scientists think the bubble isn't real at all, but a — uh —"

"I believe," the interpreter cut in smoothly, "that you're thinking of the theory that the Time Bubble operates by hypermemory. Some scientists would have us believe that all memory is time traveling and that the basic location of the bubble is not space-time at all, but ever-present eternity. Some of them go so far as to state that it is only a mental inability that prevents the Time Bubble from being used for time traveling — just as it may be a similar disability that keeps a robot with the same or even more scopeful memories from being a real man or animal."

"It is because of this minority theory that under-age individuals and other beings with impulsive mentalities are barred from the

Time Theater. But do not be alarmed. Even if the minority theory should prove true — and no evidence for it has ever appeared — there are automatically operating safeguards to protect the audience from any harmful consequences of time traveling (almost certainly impossible, remember) in either direction."

"Sissies!" was the Butcher's comment.

"**Y**OU'RE rather young to be here, aren't you?" the interpreter inquired.

The Butcher folded his arms and scowled.

The interpreter hesitated almost humanly, probably snatching through a quarter-million microtapes. "Well, you wouldn't have got in unless a qualified adult had certified you as plus-age. Enjoy yourself."

There was no need for the last injunction. The scene within the bubble had acquired a gripping interest. The shaggy warriors were taking up their swords, gathering about the hooded sorcerer. The hood fell back, revealing a face with hawklike, disturbing eyes that seemed to be looking straight out of the bubble at the future.

"This is getting good," the Butcher said, squirming toward the edge of his seat.

"Stop being an impulsive men-

tality," Hal warned him a little nervously.

"Hah!"

The sorcerer emptied the small bag on the fire and a thick cloud of smoke puffed toward the ceiling of the bubble. A clawlike hand waved wildly. The sorcerer appeared to be expostulating, commanding. The warriors stared uncomprehendingly, which seemed to exasperate the sorcerer.

"That's right," the Butcher approved loudly. "Sock it to 'em!"

"Butcher!" Hal admonished.

Suddenly the bubble grew very bright, as if the Sun had just shone forth in the ancient world, though the rain still dripped down.

"A viewing anomaly has occurred," the interpreter announced. "It may be necessary to collapse the Time Bubble for a short period."

In a frenzy, his ragged robes twisting like smoke, the sorcerer rushed at one of the warriors, pushing him backward so that in a moment he must cross-section.

"Attaboy!" the Butcher encouraged.

Then the warrior was standing outside the bubble, blinking toward the shadows, rain dripping from his beard and furs.

"Oh, boy!" the Butcher cheered in ecstasy.

"Butcher, you've done it!" Hal said, aghast.

"I sure did," the Butcher agreed blandly, "but that old guy in the bubble helped me. Must take two to work it."

"Keep your seats!" the interpreter said loudly. "We are energizing the safeguards!"

THE warriors inside the bubble stared in stupid astonishment after the one who had disappeared from their view. The sorcerer leaped about, pushing them in his direction.

Abrupt light flooded the Time Theater. The warriors who had emerged from the bubble stiffened themselves, baring their teeth.

"The safeguards are now energized," the interpreter said.

A woman in a short golden tunic stood up uncertainly from the front row of the audience.

The first warrior looked her up and down, took one hesitant step forward, then another, then suddenly grabbed her and flung her over his left shoulder, looking around menacingly and swinging his sword in his right hand.

"I repeat, the safeguards have been fully energized! Keep your seats!" the interpreter enjoined.

In the cubicle, Hal and Joggy gasped, the two girls squeaked, but the Butcher yelled a "Hey!" of disapproval, snatched up something from the floor and darted out through the sphincter.

Here and there in the audience, other adults stood up. The emerged warriors formed a ring of swinging swords and questing eyes. Between their legs their wolfish dogs, emerged with them, crouched and snarled. Then the warriors began to fan out.



"There has been an unavoidable delay in energizing the safeguards," the interpreter said. "Please be patient."

At that moment, the Butcher entered the main auditorium, brandishing a levitator above his head and striding purposefully

down the aisle. At his heels, five stocky forms trotted. In a definitely pre-civilization voice, or at least with pre-civilization volume, he bellowed: "Hey, you! You quit that!"

The first warrior looked toward him, gave his left shoulder a



shake to quiet his wriggling captive, gave his right shoulder one to supple his sword arm, and waited until the dwarfish challenger came into range. Then his sword swished down in a flashing arc.

Next moment, the Butcher was on his knees and the warrior was staring at him open-mouthed. The sword had rebounded from something invisible an arm's length above the gnomelike creature's head. The warrior backed a step.

The Butcher stayed down, crouching half behind an aisle seat and digging for something in his pocket. But he didn't stay quiet. "Sic 'em, Brute!" he shrilled. "Sic 'em, Darter! Sic 'em, Pinkie and Whitie and Blue!" Then he stopped shouting and raised his hand to his mouth.

GROWLING quite unmechanically, the five uninjes hurled themselves forward and closed with the warrior's wolflike dogs. At the first encounter, Brute and Pinkie were grabbed by the throats, shaken, and tossed a dozen feet. The warriors snarled approval and advanced. But then Brute and Pinkie raced back eagerly to the fight—and suddenly the face of the leading warrior was drenched with scarlet. He blinked and touched his fingers to it, then looked at his hand in horror.

The Butcher spared a second to repeat his command to the uninjes. But already the battle was going against the larger dogs. The latter had the advantage of weight and could toss the smaller dogs like so many foxes. But their terrible fangs did no damage, and whenever an uninj clamped on a throat, that throat was torn out.

Meanwhile, great bloody stains had appeared on the bodies of all the warriors. They drew back in a knot, looking at each other fearfully. That was when the Butcher got to his feet and strode forward, hand clenching the levitator above his head.

"Get back where you belong, you big jerks! And drop that lady!"

The first warrior pointed toward him and hissed something. Immediately, a half dozen swords were smiting at the Butcher.

"We are working to energize the safeguards," the interpreter said in mechanical panic. "Remain patient and in your seats."

The uninjes leaned into the melee, at first tearing more fur than flesh. Swords caught them and sent them spinning through the air. They came yapping back for more. Brute fixed on the first warrior's ankle. He dropped the woman, stamped unavailingly on the uninj, and let out a screech.

Swords were still rebounding from the invisible shield under

which the Butcher crouched, making terrible faces at his attackers. They drew back, looked again at their bloodstains, goggled at the demon dogs. At their leader's screech, they broke and plunged back into the Time Bubble, their leader stumbling limpingly after them. There they wasted no time on their own ragged sorcerer. Their swords rose and fell, and no repulsor field stayed them.

"Brute, come back!" the Butcher yelled.

THE gray uninj let go his hold on the leader's ankle and scampered out of the Time Bubble, which swiftly dimmed to its original light intensity and then winked out.

For once in their very mature lives, all of the adults in the auditorium began to jabber at each other simultaneously.

"We are sorry, but the anomaly has made it necessary to collapse the Time Bubble," the interpreter said. "There will be no

viewing until further announcement. Thank you for your patience."

Hal and Joggy caught up with the Butcher just as Brute jumped into his arms and the woman in gold picked him up and hugged him fiercely. The Butcher started to pull away, then grudgingly submitted.

"Cubs!" came a small cold voice from behind Hal and Joggy. "Always playing hero! Say, what's that awful smell, Cynthia? It must have come from those dirty past men."

Hal and Joggy were shouting at the Butcher, but he wasn't listening to them or to the older voices clamoring about "revised theories of reality" and other important things. He didn't even squirm as Brute licked his cheek and the woman in gold planted a big kiss practically on his mouth.

He smiled dreamily and stroked Brute's muzzle and murmured softly: "We came, we saw, we conquered, didn't we, Brute?"

— FRITZ LEIBER

We're understandably proud of the fact that our subscribers get their copies of *Galaxy* at least a week before the newsstands do . . . but we can't maintain that enviable record unless, if you're moving, we get your old and new address promptly! It takes time to change our records, you know, so send in the data as soon as you have it!

(Continued From Page 4)

protection, but it has a low survival value in nature, for it lacks a mechanism of seed dispersal. . . . Where, when and how was a species, once so hardy that it could survive in the wild, converted to a cultivated plant so specialized . . . that it would soon become extinct if deprived of man's help?"

The search for the origin of corn is as quietly tense as any private-eye chase. When Columbus landed in America, all the modern types were already in existence. With radio-carbon dating, we know how old corn is — about 1,000 B.C. in South America, about 2,000 B.C. in North America. But Mangelsdorf asks: "In what part of America did corn originate? And what kind of wild grass was it that gave rise to the multitude of present-day varieties of corn?"

Closest wild relative: teosinte, which grows in Guatemala and Mexico. But hybridizing corn with tripsacum, a more distant relative that grows in North and South America, produces something very much like teosinte. Odds, then, are that teosinte, even though more primitive, is a descendant of corn, not the ancestor! (Byproduct hypothesis: Man may also be the median between a much superior and much inferior breed. Or we may produce

Homo stupidus in the future.)

Best chance is that corn came from pod corn, which is "more than a relative of corn; it is corn — a form of corn that differs from cultivated corn in exactly the way a wild species ought to differ."

Moviegoers ought to be impressed by the fact that pop corn was eaten so long ago that: "Pottery utensils for popping corn, as well as actual specimens of the popped grains, have been found in prehistoric Peruvian graves."

Bat Cave, in New Mexico, has an important lesson for us — it was occupied from 2,000 B.C. to 1,000 A.D. and its tenants let six feet of garbage accumulate in the cave. Stratified like soil, the refuse showed corn in "a distinct evolutionary sequence. The oldest, at the bottom . . . are the smallest and most primitive."

Modern sanitation is thus a hindrance to future archeologists. Time capsules are just what we think they might be interested in, whereas it may be something as mundane to us as corn was to the Bat Cave people.

Pessimistic writers, seeing only ill ahead, might note this fact: "The pressure of natural selection . . . was greatly reduced" in the development of corn, resulting in a far more valuable plant than its ancestors, whose *only* virtue was self-preservation.

— H. L. GOLD



Looking For Us, Professor?

"Hmm, yes. I was just cogitating upon the causes of GALAXY Science Fiction's phenomenal growth in popularity."

"And that needs an explanation, Professor?"

"From a socio-psychological viewpoint, most definitely. What do you attribute the constant increase of interest?"

"Well . . . let's try it this way, Professor. Suppose we ask the questions and you answer them."

"So? A bit unusual, but go right ahead."

"Do you think atomic doom is the only future for mankind?"

"Not exactly, but the newspapers and the commentators—"

"Of course. Well, we SHOW other possible futures. Do you believe we will be able to leave the Earth?"

"Eventually, perhaps. But not in our lifetime."

"We don't agree. Assuming you're right, though, isn't that all the more reason to want to know what we'll find on other planets, Professor?"

"I think I see what you mean."

"Can we achieve immortality?"

"Ah. Hum. I've often wondered."

"And travel to different eras in time?"

"That would be exciting."

"And you've been trying to discover why GALAXY is growing so popular? Every idea we've mentioned—and a lot more, besides—is treated dramatically and vividly in GALAXY! You really live them!"

"Umm. How do I subscribe? After all, one shouldn't resist a trend, should one? Heh, heh!"

"Just fill out the coupon—or make out your own order and send it in. The coupon's for your convenience, not ours. And now you'll be one of us!"

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